

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861

THE OLDEST BEE-PAPER IN AMERICA



DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY PRODUCERS



37th Year.

CHICAGO, ILL., FEBRUARY 18, 1897.

No. 7.



Growing Alsike and White Clover.

[For the benefit of those who wish to begin to raise Alsike clover for pasturage, hay, seed, and honey, we have concluded to republish the directions as given by Mr. Baldrige, of Kane Co., Ill. He has this to say about it:—EDITOR.]

Alsike clover is a native of Sweden, where it grows wild—being both hardy and productive. It is commonly known by the name of Alsike, that being a parish in Sweden where this clover originated. It was brought into cultivation there about 100 years ago, was introduced into England in 1834, and soon after found its way into the German States and other parts of Europe, and was finally brought into the United States, through the Patent Office, in 1853.

It is a hybrid of the red and white clover. The stem and the branches are finer and less woody than the red, and when cut and cured for hay, it is perfectly free from fuzz or dust. It does not turn black, but remains the color of well-cured timothy. It has, as the engraving shows, numerous branches, and a multitude of blossoms which are very rich in honey. The blossoms at first are white, but soon change to a beautiful pink, and emit considerable fragrance. The leaves are oval, of a pale, green color, and may readily be distinguished at any stage of their growth from the white or red clover, by the total absence of a pale, white blossom on the upper surface of each leaf.

It ripens, in the latitude of Chicago, in the latter part of July, but need not be cut until August, if the weather should be unfavorable. The crop of seed is always obtained from this cutting, in which respect it is unlike the common red. It is not advisable to cut this clover more than once each season, but it may be pastured moderately during the fall. When cut for seed, it may be threshed from the field with a common clover machine; but, if more convenient, it may be stacked and threshed during the fall or winter.

Handle the seed carefully, as it shells very easily, but this is a point in its favor, as the land thus becomes re-seeded every year, and so early, that if the autumn proves to be a wet one, nearly every grain will germinate, and a fine growth of new plants will be secured for the following year. The seed is very fine—being about the size and shape of white clover—a pound containing, it is said, about 600,000 grains, or three times as many as the common red. The seed-pods contain 1, 2, 3 and sometimes 4 grains, which explains why it is so prolific—a moderate yield being from 150 to 200 pounds of seed to the acre.

When sowed by itself, 4 pounds is plenty for an acre. It is much better to mix Alsike with timothy or the common red, or with both. When thus mixt, they are a help to each other. The Alsike, being a native of a cold climate, does not winter-kill, and, besides, it acts as a mulch in winter and

spring to the common red, and keeps the latter from being destroyed by the heaving-out process. As the red clover shades the roots of the Alsike, which grows close to the surface, it protects the latter from the effects of drouth. The timothy and red clover being both upright growers, lift and keep up the Alsike from the ground, which is very desirable. The stem of the Alsike is too fine to support its many branches in an upright position, and hence is more inclined to "lodge" than the common red. For the reasons given, the combina-



Alsike Clover—*Trifolium Hybridum*.

tion of the three named plants is very important, and will prove successful wherever tried.

When mixt, sow the usual quantity of timothy and red clover, and not more than 2 pounds of Alsike seed to the acre—in fact, one pound will be ample. If wanted for seed, it might then be best to use 2 pounds of Alsike to the acre. Timothy and red clover do no harm, as the crop may be cut so early that the Alsike will be the only plant ripe enough to

furnish seed. Timothy seed, being about the same size as the Alsike, cannot very well be separated from it; but with red clover, a fine sieve will quickly do the work.

Having often dug up specimen roots of both Alsike and the common red clover for comparison and exhibition, the difference in the size of the crowns and the quantity of roots seems to be decidedly in favor of the Alsike.

Having now grown Alsike on a variety of soils for the past 20 years with success, I know that these are facts, and not theories.

In 1886, Hon. M. Anderson, of Wisconsin, had 80 acres of Alsike—20 acres harvested gave 110 bushels of seed and 25 tons of good hay. M. M. BALDRIDGE.

[Mr. Orville Jones, of Ingham Co., Mich., sent us the following, dated Feb. 5, in which he also refers to white clover.—EDITOR.]

As it is getting near the time of year to sow Alsike clover seed, I will try to tell how I manage it.

It must be remembered, however, that Michigan is a great grass country, and that Alsike or white clover will not thrive on high, sandy soil. To get a good catch, we must first select a field or soil that is adapted to it, namely, a low, black soil, or a high, level piece of clay gives best results. This also applies to white clover. I have raised or grown these clovers for years for my bees, and of course for hay as well, and have never failed in getting the ground covered with plants. I usually sow white or Alsike clover in with oats in the spring, sowing about $2\frac{1}{4}$ quarts of the latter, and two quarts of the former per acre. It should be placed in the drill, or you will have to go over the piece with a light harrow to cover all the seed.

Now, if you desire to sow with winter wheat, the best time to sow is in the latter part of March or the first of April (in this latitude), when the ground is frozen just enough to make it comby. Now throw on the seed, and when the ground thaws out the clover seed will be covered nicely, and waiting for warm weather to germinate it.

I wonder if Mr. Richter (page 46) is not doing some guessing, as well as Dr. Miller, when he says one-third of 40 pounds is seed enough for an acre. In sowing white or Alsike clover for honey alone, there is one thing to be remembered, and that is, in not getting the plants too thick, as the more they spread the more blossoms there will be, hence the longer the honey-flow.

Bees are wintering well here.

ORVILLE JONES.

[For seed rates on both of these honey-clovers, see page 107 of this number of the Bee Journal.—EDITOR.]



Comb Honey vs. Extracted—Comparative Cost.

BY R. C. AIKIN.

In my former article on this topic (see page 17) I discuss the question as to how much extracted could be produced more than comb. Now we consider the cost of the products to determine which is the more profitable.

The first outlay for bees and honey-house for either will be about the same. By consulting Root's price-list I find that he quotes comb honey and extracted honey hives just the same. Counting then the cost of bees, hives and house, there is no difference thus far. Let us count the cost of producing comb honey aside from yard work: 2,000 sections at \$3.00—\$6.00; full sheets of foundation for same—20 pounds at 60 cents—\$12.00; a hand to fold sections and put in foundation, one day, \$2.00; 84 shipping-cases, ready nailed, at 20 cents each—\$16.80; cleaning and casing the honey, two days at \$2.00—\$4.00. Total cost for sections, foundation, cases, and all labor clast as shop or inside work—\$40.80.

Now let us consider the same part of cost of extracted. Combs are in the nature of a permanent investment so I will leave them to go into that part of the estimate. Uncapping and extracting 2,000 pounds, 2 men one day—\$4.00; 17 boxes of 60 pound cans, at 75 cents per box—\$12.75; 5 hours' labor running honey into cans, at 20 cents—\$1.00. Total, \$17.75.

Now the outside or yard work: It will require 84 supers to hold this amount of honey, either comb or extracted, unless full-depth bodies are used for extracting, when only about 40 extras would be needed. I will assume that the preparatory work—getting colonies ready to receive extras—is about equal. There cannot be much difference. The hives once ready it requires very little time to put on the extras, and here again the difference is so slight that we will call it even. This practically brings us to the taking off the honey.

There is a number of plans or methods of removing surplus. If it is done by the use of escapes, we may again balance labor, for there can be but little difference. If brushing is to be practiced, the difference would be a little in favor of comb. I consider either of these methods as too slow, too expensive, and altogether unnecessary for an apiarist. A farmer with a few colonies to supply his own table may well make use of the escape; but the apiarist—though apiculture be not his sole occupation—should by all means have a honey-room.

If he does not have such a room separate and into which he can carry bees and honey and have proper window-escapes, he should have a very cheap bit of room in the yard, and absolutely bee-proof, and window-escapes. I consider this the way, and have so practiced in a wholesale way. To remove the honey—either comb or extracted—I first smoke down the bees by shooting smoke in and above and keep them going like a flock of sheep, and quickly remove the super, and if a grass yard, swipe the bottom on the grass; but if no grass I use a great, big grass-brush and swipe this over the bottom. I then carry the super to the house and let the bees pass out through the window-escape.

Since the foregoing is the better one I shall make my calculations upon that method. To remove the surplus in this manner we can again balance the labor, for it means about the same in either case, though if deep extracting-supers are used more bees will be carried to the house than with sections, and the more uncapped honey, the more bees will remain with it. This covers the yard work; and, all things considered, we may say the difference in labor is scarcely worth noting.

The question of swarming, however, comes up. Many will say that when extracted honey is produced, swarming is but little trouble. I know that it is possible to get fair results and very little swarming when working for extracted; but if the methods to discourage swarming are pushed far enough to make it practical, the additional expense to make it a success for comb, or to stay with them to care for swarms, is not very great. However, it does take some more care, skill and expense in the yard-work to produce comb; but I propose to balance this against the fact that the extracting must be done at once, while the sections once in the house they can wait till the rush is over to receive further attention. I can get into the house either comb or extracted honey with about the same time and labor; but the extracted must be thrown out while warm, and while extracting we might be doing other yard work. Considering, then, that comb necessitates some more labor because of an increase tendency to swarming, and that the extracted demands care (extracting) immediately after being removed from the hive while comb will wait for a slack time for cleaning, I must again balance the one against the other.

Now let us consider the cost of marketing. We left the comb honey in shipping-cases and the extracted in 60-pound cans. The comb is ready for either retail or wholesale—the extracted ready only for wholesale. Comb honey usually goes at first-class freight, extracted at second or third class. If comb goes at \$1.00, extracted will go at about 75 cents, or $\frac{1}{4}$ cent more on the comb.

We took as a basis one ton of honey. We are not endeavoring to get at the actual cost, but the comparative. Where we could balance one thing against another—or cancel common factors—we have done so. We have figured the ton of comb, aside from common factors, at \$40.80, and extracted at \$17.75—a difference of about $1\frac{1}{4}$ cents per pound more than the comb would cost. If you ship a distance costing \$1.00 per 100 pounds, there would be about $\frac{1}{4}$ cent more. Let us then say a difference of $1\frac{1}{4}$ cents.

There is yet in the matter some uncounted cost. The production of extracted requires an investment in fixtures or plant that is not in a comb-honey plant. For comb honey we need a section-folder—Root lists the Hubbard at \$2.50; also a foundation fastener at \$1.00—I prefer a combined machine worth about \$3.00. These machines of various makes cost all the way up to about \$5.00. Root also lists uncapping-knives at 70 cents, and uncapping-cans at \$7.00. Now, I am going to give the extracted product an advantage here, and "factor out" these items. This covers the comb-honey outfit, but there is needed for extracting, an extractor, extracting-combs, strainers, buckets, etc. Extractors are listed at from \$7.00 to \$20—we will say \$10 for an extractor; large settling-tank (cheap) at \$5.00; buckets, strainers, etc., \$3.00—total, \$18.

Now for extracting-combs: We have counted to hold the 2,000 pounds in sections, 84 twenty-four section supers, so we will count 42 full-depth extracting-supers and 7 frames each, or 294 frames. It will cost about 8 to 10 cents per frame for foundation. According to Root's list they wire and fill frames with thin foundation at \$10 per hundred. Whether

foundation or natural combs are used they ought to be worth that, so we will put them in at that price. At 7 frames we have 294, but we will call it 300 at 10 cents each—\$30. Add to this the cans, extractors and such, \$18, and we have \$48 to go into a permanent investment, and that is not one bit more than half what is really needed. It will not do to figure in these things on the one ton of honey—the interest, wear and tear and cost of maintaining them should come in, though the proportion of per cent. would diminish or increase as the crop was large or small. I am going to drop out this item, too, and see what we will realize on our ton of honey according to the foregoing figures.

I find in this journal the following quotations for Chicago, at the time of this writing: "White comb, 12 to 13 cents"—say 12½ cents—\$250 per ton. "White extracted, 5 to 7 cents," or \$140 per ton at the top price. Referring back, you will find I have estimated the cost of comb to be 1½ cents more per pound than extracted, while in the markets we can

it must pass through several hands—hands unused to honey—it must be in sealed packages. Sealed packages soon run the cost away above that of comb. Comb honey gets its case at about 1 cent per pound, or less, but you cannot put up all pound packages of extracted for less than 3 to 5 cents, sealed against leakage.

Now do not forget that I have been figuring comparative cost, not actual cost of producing the two articles. Actual cost is an ever-varying thing. We can figure very close on the cost outside of labor. True, it is not so much labor to produce one ton as to produce 10 tons; but very often there is a lot of work done in anticipation, that we must do. Aside, however, from this we can figure the cost so that we can say with a reasonable accuracy that any given yield, and at given prices, will give us so much for our labor. The great cost of honey is the labor, and extracted takes more of it, and piled up more, than does comb.

There are those who think there is little room for im-

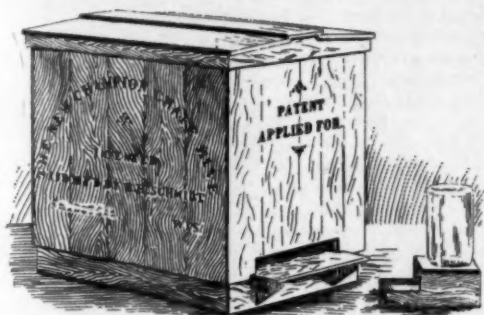


Fig. 1.

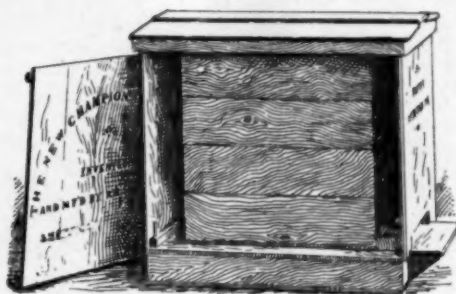


Fig. 2.



Fig. 3.

get 5½ cents more per pound—a profit of 4 cents more for comb than extracted.

We will suppose that we can produce 2 pounds of extracted to 1 of comb—2 tons to one. If one ton costs \$17.75, 2 tons would cost \$35.50, and bring according to the figures above, \$280. Now deduct from this the freight on the extra ton, and the commission of 5 or 10 per cent., and there is no more money for the 2 tons of extracted than for the one ton of comb. The commission alone on the extra ton would be \$14, leaving \$16 to pay the freight, which, at 75 cents, would be \$15.

Another thing to consider is retail packages for extracted. At present there is really no market for extracted honey in retail packages. I mean, of course, the wholesale market. You cannot find any quotations on extracted except in barrels or cans. Nearly all extracted honey candles more or less, and must be put into the retail package as soon as extracted, or else there must be an addition to your plant of a liquifying arrangement. Suppose, then, you put it into retail packages as you extract. The cheapest package is tin pails. These pails do not seal, and the honey cannot be shipped unless candied solid. The cheapest pail will cost ¼ cent per pound more than the 5-gallon can.

Glass and sealing packages will cost from about 3 to 5 cents per pound, and there is no established market for them. They are not regular, and may be you can sell and maybe not. Dealers do not want to risk such. If you live near town, and sell direct to customers, an unsealed package will do; but if

provement in apiculture, but I am not one of them. We must improve methods of producing and marketing extracted honey or quit it. There is abundant room, I am sure, in one line, and that is in supplying home markets and supplanting the glucose and cheap syrup that is now on the market. Why is it that nearly everybody buys maple syrup at \$1.25 to \$1.50 per gallon when honey brings but \$1.00 per gallon, and less? The reason is that our methods are so crude and our product so scarce that we just cannot get it to the consumer.

Page Co., Iowa.



The "New Champion" Chaff Hive.

Figure 1 represents the New Champion double-walled chaff hive, made by R. H. Schmidt & Co., of Wisconsin. It can be used for comb honey and extracting at the same time if desired. It has a 3¼-inch air-space that may be filled in winter with chaff, sawdust, or other packing material. This can be removed in the spring and the room used as an air-space during the summer days, by simply lifting out one or two sides (see Fig. 2), which are fastened by steel-wire pins, and can be replaced easily and quickly. The hive bottom is double, with a 2-inch chaff or sawdust filling.

The hive is made of ¾-inch white pine lumber, planed on both sides and shiplapt. The outside boards are nailed up and down, on hardwood cleats, and the roof is tinned, making the

hive perfectly water-proof. This should make it a very durable hive.

Figure 3 shows the various parts of the hive, which explain themselves. An entrance feeder is also shown in Fig. 1.



Amalgamation: Combining Against Adulteration

BY MRS. L. C. AXTELL.

EDITOR YORK:—We have been a member of the National Bee-Keepers' Union for several years, but guess we did not pay up for last year, and do not know if we have a right to vote on the amalgamation of the two societies or not. If we can vote, can you send in our ballot?

There has been a great deal written for and against amalgamation, and probably a great many readers have been like us—have not read it all, and yet want a strong Union, and would vote for it if they knew just whom to vote for, and where to send their money.

We ought to combine against adulteration and dishonest commission-men. We ought to compel those who mix up honey and glucose, to label it glucose and honey. We have had very nice looking packages of syrup in glass tumblers, with a small piece of comb honey, placed in our stores and sold as California honey, at a low price, and that brings our honey down to a like price, or it goes unsold until the adulterated article is gone. That which was brought here a year ago last summer was called "California sage honey," put up in Chicago, by so and so, and one of our store-keepers, who was selling it, was loud in recommending it, and said that sage honey was the best honey in the world, and so it went off at first very fast; but some said they did not want it the second time, tho it tasted very well. It tasted quite pleasant to me, but could not have been honey, or it would not have been sold so low. Now we can't prevent such articles of food being made and sold, but we ought to prevent it being sold as pure honey, when there is but a trifle of honey in it.

We ought also to have some one who would look after our honey when it is sent to commission-men to be sold. There are so many ways that they can get ahead of us, and as we know it will do no good to say anything back to them, we must just keep still and take just what they are willing to give us.

We ought to push our sales of honey at home more than we do. If it has to go cheap, let our neighbors have it cheap. The honey sold at home should be graded just as much as that sent to the cities, and let each one have his choice of price. Many will buy if they can get a cheap honey, and we might as well sell it cheap at home as to let the commission-men do so for us. Many times they are not to blame, for when so much honey is sent to them, they must get rid of it somehow.

We had about 3,800 pounds of honey from our 125 colonies in 1896, and increased to 150 colonies.

Warren Co., Ill.

[Mrs. Axtell's letter reached as Feb. 5—four days after the polls closed. No dues have been called for now for two years, except from new members when joining. This is because enough money is, and has been, in the treasury to meet the expenses incurred.]

We presume that to all who were members in 1896 were mailed the General Manager's 12th Annual Report. We received ours Jan. 11, 1897. Others should have had theirs about the same time, if all were mailed together.

Upon referring to the list of members, we do not find the name of Axtell among them. That would account for the non-receipt of the Report and ballot.—EDITOR.]



Preparing and Moving Bees in March.

BY C. P. DADANT.

QUES.—"I must move on the first of March. Will my bees suffer by being packed and transported at that time? and would I better cover them up again?—W. S."

ANS.—It is difficult to answer such a question by yes or no. The safety of transporting bees at that time depends considerably upon their condition. After a winter like the present, when they have had a chance to take a flight every few days, there is much less danger of any loss in transporting them, as early as March; for they are usually very strong in numbers, and have been breeding quite freely, often as early as Janu-

ary. The hatching of young bees early in the year is the best security against spring dwindling.

On the other hand, when the colony has been weakened by repeated losses, due to extremes of cold, or to the death of a part of the cluster, from its being on the outside combs, away from the main body, during a protracted cold spell, there is but little tendency to brood-rearing and the colony is unable to recuperate its losses, be they ever so small, until the warm days enable them to create a sufficient heat to encourage the queen to lay. Thus, after a long, cold winter, if the bees have barely commenced to breed, there is a great deal of danger in the transporting of them early, as the loss of a few bees that may occur will weaken the colony that much more. If the breeding is not sufficient to keep up the force, there are continuous losses of bees in cool, windy days, especially when they feel the necessity of going out after pollen or water.

Some of the most noted naturalists tell us that bees do not need water for their brood; that they can rear plenty of young bees without a drop of water; but the practical apiarist who learns bee-culture by the experience of daily observation, knows that the bees do use a great deal of water. He has observed them, in early springs, around streams, pumping up the moisture from between the grains of sand on the river's edge, or the dew from the moist leaves; he has seen them venture out in cool days, evidently with no other purpose than that of getting water, and he knows that, altho they may be able to breed some without water when honey is fresh and thin, they surely need a great deal of it to prepare the food for the larvæ when the honey is thick and the pollen dry, as it must be after winter.

We would, therefore, say: After an open winter—one in which the bees have had a flight once every two or three weeks, or oftener—if they have sustained but little loss and have plenty of brood, we would not hesitate to transport them in the beginning of March, and would think it hardly necessary to pack them up again, except perhaps the weak colonies, of which there are always a few in a good-sized apiary; but if the winter has been hard, if the breeding has barely begun, or if there have been heavy losses, we would use a great deal of care, and would surely give them a new packing when placed on their new stands.

There is one case in which we would entirely abstain from transporting them on March first, and that is, if the weather has been so that they have not had a flight for a month or more previous to moving them, and if the weather is still so rude as to prevent their flight shortly after they have been removed. The moving would disturb them and would cause them to scatter about the hive. Probably a number of bees in each hive would be chilled. Perhaps, also, the extra exertion would induce them to consume more than usual, and their intestines, already loaded with feces, would become so much more embarrassed, and the result, unless a warm day came quickly, would very probably be disastrous.

In any case, it is well to move them shortly after they have had one good flight. Rather move them a little earlier, after a good flight, than wait and disturb them during a two weeks' or three weeks' confinement, such as we sometimes see in March, especially in late winters.

One thing above all, is very important: Be sure that they are compelled, on their first flight after the change, to notice their change of residence. If they cannot fly out the very day on which they are moved, they will be quite likely, when the excitement is over, to issue out of the hive, as if nothing had happened—that is, without looking behind. A bee, in its first two or three flights out of its hive, takes a close observation of the surroundings and notices the exact spot of its home so closely that if you move the hive afterwards, if it were but one foot in any direction, it will have some difficulty in recognizing the entrance.

After the first two or three flights, the bee never looks back, but darts out straight. So if you move them and they do not have a chance to fly for two or three days, or even till the next day, the excitement being over, they will have probably forgotten all about it, and will not even suspect that the location has been changed. The bees will issue as usual in a straight line, and will not notice the change till they are a few feet away; perhaps they will not think of looking back before they have gone a hundred feet or more. Then, if there are a number of hives close together, there will be some confusion, and many bees will be lost. There is a very simple way to prevent this. Place something in front of the hives, so they may know, before they take wing, that there is a change in the outside conditions. We use a slanting board in front of the entrance, around which they have to fly. This calls their attention to the change at once. Another way is to keep the hives closed till the middle of a warm day; but this method will irritate them more than the first.

CONVENTION PROCEEDINGS

Report of the Michigan State Bee-Keepers' Convention, Held at Mt. Pleasant.

BY W. Z. HUTCHINSON.

[Continued from page 86.]

The Secretary then read a paper from Hon. R. L. Taylor, of Lapeer Co., entitled,

REQUIREMENTS OF THE HIVE.

I have found myself willing to write upon the well-worn topic of the bee-hive, because there is perhaps no point relating to bee-keeping about which I am asked so many questions as this.

It is well to understand that the bees themselves are not much concerned about the characteristics of their hive—they will store as much honey, other things being equal, in a shoe-box or a nail-keg as in a hive of the latest pattern or patent. So the form of the hive is a mere question of convenience to the apiarist. He may shape it so as best to secure the object he has in view. But bee-keepers have many objects, so hives are wanted, 1st, for catching moths; 2nd, for pleasure; 3rd, for preventing swarming; 4th, for producing bees; 5th, for wintering bees; 6th, for rearing queens; 7th, for producing extracted honey; 8th, for producing comb honey.

Fortunately, a different kind of hive is not required for each of these objects; if a hive is to be selected for one object, an eye may be had also to points calculated to secure other objects that are subsidiary and yet necessary to the full attainment of the main one; thus, whatever the main object, the hive must be such that it will prove as little fatal to the bees in winter time as possible. Still, no particular hive is likely to prove the best for all purposes.

The numbers of those who delight in hives simply on account of their moth-catching qualities are of course small, but as there are some whose chief pleasure and occupation in life is to tame mosquitoes and train fleas to perform tricks, we are not to be surprised that there are some whose chief consideration it is to trap wax-moths. It might be well if all of that type of bee-keepers were confined to moth-trapping.

To be classed with these are those who keep bees and select hives for pleasure only; not that they are equally eccentric, but because the prescribing of hives for each of these two classes is alike outside the lines of apiculture proper.

Intermediate between these two classes and those that have an eye strictly to financial returns are those who are intensely interested in non-swarming, producing bees, and in wintering bees. I call these intermediate because a part of each class is so passionately absorbed in inventing or otherwise securing or in testing a hive specifically adapted to the attainment of one of these ends that all interest in the primary objects of bee-culture are so lost that they fade out of view—(who has not met those who are in ecstasies over their large or frequent swarms, yet who either forget to put on the surplus boxes or to take them off?)—while the other part make these objects more or less subsidiary to the attainment of the proper rewards of bee-keeping. The first part of these classes must be relegated to a place with those who are pursuing pleasure and moths; with the hope, nevertheless, that by chance some device may be hit upon by them sometime that will be found worthy to be incorporated into the mass of real value to apiculture, while the latter part will receive such brief attention in connection with hives for honey-production as the limits of this paper will permit.

While queen-rearing is a legitimate department of bee-keeping, yet the characteristics of the hive best adapted to that branch is only of special interest to so few that I would not be warranted in taking time on the topic, even if I could hope to make any valuable suggestion touching it. The hive in use for other purposes will generally be found sufficiently serviceable for this.

This brings me to the important point of this subject—the hive best adapted to the production of honey. I confine myself to a discussion of the brood-chamber, and that chiefly in relation to general principles.

The successful production of honey is the one overshadowing object of apiculture, and to this in my estimation all others ought to be made unhesitatingly to bow.

For my use, at least, there are certain qualities which a hive for that purpose must not possess:

1st. It must not be expensive. Fifteen or 20 cents should purchase lumber enough of sufficiently good quality for body, cover, and bottom. Lumber called "shipping culls," of white pine, is good enough for the body, and a grade or two better will do for covers and bottoms, if the best of it is selected for covers. The apiarist must not be seduced by one or two good crops into failure in point of economy.

2nd. It must not be cumbersome. Its bulk and weight should be as small as may be, loose parts and projections should be avoided except where that is impossible. A hive that cannot be handled easily by one man when it contains a colony of bees with stores enough for winter is, as a rule, to be shunned. There may be an exception where the hive is seldom or never to be moved summer or winter. Even the risk of the displacements of the combs would, I think, better be obviated by fixed frames.

3rd. It must not be complicated. Slides, drawers and such like traps never work well inside of a box occupied by bees, and if they would, they could hardly accomplish anything which may not be more easily attained by simplicity.

Besides these negative points there are, in my view, some positive qualities to be sought for in any hive at all well calculated for an apiary to be conducted for the highest net profit. The first and most important of these is that the hive be fitted to conveniently repress the production of bees that can only detract from the net income. No doubt there are localities where, on account of the continuous character of the honey-flow, or from the fact that the late crop is abundant and equally valuable, or nearly so, pound for pound, with that of the early crop, this matter may not require consideration, but in localities like central Michigan, where the June and early July honey from white clover and basswood is nearly twice as valuable pound for pound as that gathered in the fall; and where the fall crop is generally scant or entirely wanting, and in any case a period of 30 or 40 days of entire dearth between basswood and fall flowers, it is of the first importance.

I have heretofore attempted to show, and have, at least, about convinced myself that it costs two pounds of honey to rear one pound of brood, and that as a Langstroth frame is capable of containing two pounds of brood, therefore, I hold that one such frame of brood costs four pounds of honey. Moreover, it needs no argument to show that five such frames will contain sufficient brood to keep the colony up to the highest strength desirable in this locality for fall and winter purposes.

Suppose, now, the clover and basswood season here, any given year, July 15, it is evident, since it requires 35 days from the laying of the egg to mature a field-worker, that all eggs laid in any colony in excess of the number required to keep comb to the extent of five Langstroth frames supplied with brood can produce no bees that will prove of any practical utility. During these 35 days—the height of the season—average queens, if allowed room, will keep eight frames filled with brood, and as it is for nearly $1\frac{1}{2}$ generations, the total excess over the required five frames would amount to about five times during the 35 days at an expense of 20 pounds of honey, or in an apiary of 100 colonies a matter of \$200 to \$250.

If space permitted it would be easy to mention one or two other items that would make the amount considerably more. It would be comparatively easy to select a hive that would secure the repression, if it were permissible at no time of the year to allow more than five Langstroth frames of brood, but it is just as imperative that every cell possible be used previous to June 10, as that unnecessary brood should be prevented after that date. The selection of a hive must be made, therefore, first, with reference to the earlier period.

In the production of extracted honey the size of the hive during this period would not be very material, as honey in combs at the side of the brood-nest would be about as valuable as that in combs above it, but for the production of comb honey it should be of such size as to give as nearly as possible merely room for the brood, and thus secure the storing of the honey in the sections where it will be of double value. In this locality only a small proportion of colonies would occupy more than eight Langstroth frames with brood prior to June 10, so I deem a hive of greater capacity than that objectionable for the production of comb honey. If the field was lightly stocked with bees, so that as large an increase as possible were desirable for the gathering of the crop, each queen could

hive perfectly water-proof. This should make it a very durable hive.

Figure 3 shows the various parts of the hive, which explain themselves. An entrance feeder is also shown in Fig. 1.



Amalgamation: Combining Against Aulteration

BY MRS. L. C. AXTELL.

EDITOR YORK:—We have been a member of the National Bee-Keepers' Union for several years, but guess we did not pay up for last year, and do not know if we have a right to vote on the amalgamation of the two societies or not. If we can vote, can you send in our ballot?

There has been a great deal written for and against amalgamation, and probably a great many readers have been like us—have not read it all, and yet want a strong Union, and would vote for it if they knew just whom to vote for, and where to send their money.

We ought to combine against adulteration and dishonest commission-men. We ought to compel those who mix up honey and glucose, to label it glucose and honey. We have had very nice looking packages of syrup in glass tumblers, with a small piece of comb honey, placed in our stores and sold as California honey, at a low price, and that brings our honey down to a like price, or it goes unsold until the adulterated article is gone. That which was brought here a year ago last summer was called "California sage honey," put up in Chicago, by so and so, and one of our store-keepers, who was selling it, was loud in recommending it, and said that sage honey was the best honey in the world, and so it went off at first very fast; but some said they did not want it the second time, tho it tasted very well. It tasted quite pleasant to me, but could not have been honey, or it would not have been sold so low. Now we can't prevent such articles of food being made and sold, but we ought to prevent it being sold as pure honey, when there is but a trifle of honey in it.

We ought also to have some one who would look after our honey when it is sent to commission-men to be sold. There are so many ways that they can get ahead of us, and as we know it will do no good to say anything back to them, we must just keep still and take just what they are willing to give us.

We ought to push our sales of honey at home more than we do. If it has to go cheap, let our neighbors have it cheap. The honey sold at home should be graded just as much as that sent to the cities, and let each one have his choice of price. Many will buy if they can get a cheap honey, and we might as well sell it cheap at home as to let the commission-men do so for us. Many times they are not to blame, for when so much honey is sent to them, they must get rid of it somehow.

We had about 3,800 pounds of honey from our 125 colonies in 1896, and increase to 150 colonies.

Warren Co., Ill.

[Mrs. Axtell's letter reached as Feb. 5—four days after the polls closed. No dues have been called for now for two years, except from new members when joining. This is because enough money is, and has been, in the treasury to meet the expenses incurred.]

We presume that to all who were members in 1896 were mailed the General Manager's 12th Annual Report. We received ours Jan. 11, 1897. Others should have had theirs about the same time, if all were mailed together.

Upon referring to the list of members, we do not find the name of Axtell among them. That would account for the non-receipt of the Report and ballot.—EDITOR.]



Preparing and Moving Bees in March.

BY C. P. DADANT.

QUES.—"I must move on the first of March. Will my bees suffer by being packed and transported at that time? and would I better cover them up again?—W. S."

ANS.—It is difficult to answer such a question by yes or so. The safety of transporting bees at that time depends considerably upon their condition. After a winter like the present, when they have had a chance to take a flight every few days, there is much less danger of any loss in transporting them, as early as March; for they are usually very strong in numbers, and have been breeding quite freely, often as early as Janu-

ary. The hatching of young bees early in the year is the best security against spring dwindling.

On the other hand, when the colony has been weakened by repeated losses, due to extremes of cold, or to the death of a part of the cluster, from its being on the outside combs, away from the main body, during a protracted cold spell, there is but little tendency to brood-rearing and the colony is unable to recuperate its losses, be they ever so small, until the warm days enable them to create a sufficient heat to encourage the queen to lay. Thus, after a long, cold winter, if the bees have barely commenced to breed, there is a great deal of danger in the transporting of them early, as the loss of a few bees that may occur will weaken the colony that much more. If the breeding is not sufficient to keep up the force, there are continuous losses of bees in cool, windy days, especially when they feel the necessity of going out after pollen or water.

Some of the most noted naturalists tell us that bees do not need water for their brood; that they can rear plenty of young bees without a drop of water; but the practical apiarist who learns bee-culture by the experience of daily observation, knows that the bees do use a great deal of water. He has observed them, in early springs, around streams, pumping up the moisture from between the grains of sand on the river's edge, or the dew from the moist leaves; he has seen them venture out in cool days, evidently with no other purpose than that of getting water, and he knows that, altho they may be able to breed some without water when honey is fresh and thin, they surely need a great deal of it to prepare the food for the larvæ when the honey is thick and the pollen dry, as it must be after winter.

We would, therefore, say: After an open winter—one in which the bees have had a flight once every two or three weeks, or oftener—if they have sustained but little loss and have plenty of brood, we would not hesitate to transport them in the beginning of March, and would think it hardly necessary to pack them up again, except perhaps the weak colonies, of which there are always a few in a good-sized apiary; but if the winter has been hard, if the breeding has barely begun, or if there have been heavy losses, we would use a great deal of care, and would surely give them a new packing when placed on their new stands.

There is one case in which we would entirely abstain from transporting them on March first, and that is, if the weather has been so that they have not had a flight for a month or more previous to moving them, and if the weather is still so rude as to prevent their flight shortly after they have been removed. The moving would disturb them and would cause them to scatter about the hive. Probably a number of bees in each hive would be chilled. Perhaps, also, the extra exertion would induce them to consume more than usual, and their intestines, already loaded with feces, would become so much more embarrass, and the result, unless a warm day came quickly, would very probably be disastrous.

In any case, it is well to move them shortly after they have had one good flight. Rather move them a little earlier, after a good flight, than wait and disturb them during a two weeks' or three weeks' confinement, such as we sometimes see in March, especially in late winters.

One thing above all, is very important: Be sure that they are compelled, on their first flight after the change, to notice their change of residence. If they cannot fly out the very day on which they are moved, they will be quite likely, when the excitement is over, to issue out of the hive, as if nothing had happened—that is, without looking behind. A bee, in its first two or three flights out of its hive, takes a close observation of the surroundings and notices the exact spot of its home so closely that if you move the hive afterwards, if it were but one foot in any direction, it will have some difficulty in recognizing the entrance.

After the first two or three flights, the bee never looks back, but darts out straight. So if you move them and they do not have a chance to fly for two or three days, or even till the next day, the excitement being over, they will have probably forgotten all about it, and will not even suspect that the location has been changed. The bees will issue as usual in a straight line, and will not notice the change till they are a few feet away; perhaps they will not think of looking back before they have gone a hundred feet or more. Then, if there are a number of hives close together, there will be some confusion, and many bees will be lost. There is a very simple way to prevent this. Place something in front of the hives, so they may know, before they take wing, that there is a change in the outside conditions. We use a slanting board in front of the entrance, around which they have to fly. This calls their attention to the change at once. Another way is to keep the hives closed till the middle of a warm day; but this method will irritate them more than the first.

CONVENTION PROCEEDINGS

Report of the Michigan State Bee-Keepers' Convention, Held at Mt. Pleasant.

BY W. Z. HUTCHINSON.

[Continued from page 86.]

The Secretary then read a paper from Hon. R. L. Taylor, of Lapeer Co., entitled,

REQUIREMENTS OF THE HIVE.

I have found myself willing to write upon the well-worn topic of the bee-hive, because there is perhaps no point relating to bee-keeping about which I am asked so many questions as this.

It is well to understand that the bees themselves are not much concerned about the characteristics of their hive—they will store as much honey, other things being equal, in a shoe-box or a nail-keg as in a hive of the latest pattern or patent. So the form of the hive is a mere question of convenience to the apiarist. He may shape it so as best to secure the object he has in view. But bee-keepers have many objects, so hives are wanted, 1st, for catching moths; 2nd, for pleasure; 3rd, for preventing swarming; 4th, for producing bees; 5th, for wintering bees; 6th, for rearing queens; 7th, for producing extracted honey; 8th, for producing comb honey.

Fortunately, a different kind of hive is not required for each of these objects; if a hive is to be selected for one object, an eye may be had also to points calculated to secure other objects that are subsidiary and yet necessary to the full attainment of the main one; thus, whatever the main object, the hive must be such that it will prove as little fatal to the bees in winter time as possible. Still, no particular hive is likely to prove the best for all purposes.

The numbers of those who delight in hives simply on account of their moth-catching qualities are of course small, but as there are some whose chief pleasure and occupation in life is to tame mosquitoes and train fleas to perform tricks, we are not to be surprised that there are some whose chief consideration it is to trap wax-moths. It might be well if all of that type of bee-keepers were confined to moth-trapping.

To be classed with these are those who keep bees and select hives for pleasure only; not that they are equally eccentric, but because the prescribing of hives for each of these two classes is alike outside the lines of apiculture proper.

Intermediate between these two classes and those that have an eye strictly to financial returns are those who are intensely interested in non-swarming, producing bees, and in wintering bees. I call these intermediate because a part of each class is so passionately absorbed in inventing or otherwise securing or in testing a hive specifically adapted to the attainment of one of these ends that all interest in the primary objects of bee-culture are so lost that they fade out of view—(who has not met those who are in ecstasies over their large or frequent swarms, yet who either forget to put on the surplus boxes or to take them off?)—while the other part make these objects more or less subsidiary to the attainment of the proper rewards of bee-keeping. The first part of these classes must be relegated to a place with those who are pursuing pleasure and moths; with the hope, nevertheless, that by chance some device may be hit upon by them sometime that will be found worthy to be incorporated into the mass of real value to apiculture, while the latter part will receive such brief attention in connection with hives for honey-production as the limits of this paper will permit.

While queen-rearing is a legitimate department of bee-keeping, yet the characteristics of the hive best adapted to that branch is only of special interest to so few that I would not be warranted in taking time on the topic, even if I could hope to make any valuable suggestion touching it. The hive in use for other purposes will generally be found sufficiently serviceable for this.

This brings me to the important point of this subject—the hive best adapted to the production of honey. I confine myself to a discussion of the brood-chamber, and that chiefly in relation to general principles.

The successful production of honey is the one overshadowing object of apiculture, and to this in my estimation all others ought to be made unhesitatingly to bow.

For my use, at least, there are certain qualities which a hive for that purpose must not possess:

1st. It must not be expensive. Fifteen or 20 cents should purchase lumber enough of sufficiently good quality for body, cover, and bottom. Lumber called "shipping culls," of white pine, is good enough for the body, and a grade or two better will do for covers and bottoms, if the best of it is selected for covers. The apiarist must not be seduced by one or two good crops into failure in point of economy.

2nd. It must not be cumbersome. Its bulk and weight should be as small as may be, loose parts and projections should be avoided except where that is impossible. A hive that cannot be handled easily by one man when it contains a colony of bees with stores enough for winter is, as a rule, to be shunned. There may be an exception where the hive is seldom or never to be moved summer or winter. Even the risk of the displacements of the combs would, I think, better be obviated by fixed frames.

3rd. It must not be complicated. Slides, drawers and such like traps never work well inside of a box occupied by bees, and if they would, they could hardly accomplish anything which may not be more easily attained by simplicity.

Besides these negative points there are, in my view, some positive qualities to be sought for in any hive at all well calculated for an apiary to be conducted for the highest net profit. The first and most important of these is that the hive be fitted to conveniently repress the production of bees that can only detract from the net income. No doubt there are localities where, on account of the continuous character of the honey-flow, or from the fact that the late crop is abundant and equally valuable, or nearly so, pound for pound, with that of the early crop, this matter may not require consideration, but in localities like central Michigan, where the June and early July honey from white clover and basswood is nearly twice as valuable pound for pound as that gathered in the fall; and where the fall crop is generally scant or entirely wanting, and in any case a period of 30 or 40 days of entire dearth between basswood and fall flowers, it is of the first importance.

I have heretofore attempted to show, and have, at least, about convinced myself that it costs two pounds of honey to rear one pound of brood, and that as a Langstroth frame is capable of containing two pounds of brood, therefore, I hold that one such frame of brood costs four pounds of honey. Moreover, it needs no argument to show that five such frames will contain sufficient brood to keep the colony up to the highest strength desirable in this locality for fall and winter purposes.

Suppose, now, the clover and basswood season here, any given year, July 15, it is evident, since it requires 35 days from the laying of the egg to mature a field-worker, that all eggs laid in any colony in excess of the number required to keep comb to the extent of five Langstroth frames supplied with brood can produce no bees that will prove of any practical utility. During these 35 days—the height of the season—average queens, if allowed room, will keep eight frames filled with brood, and as it is for nearly $1\frac{1}{2}$ generations, the total excess over the required five frames would amount to about five times during the 35 days at an expense of 20 pounds of honey, or in an apiary of 100 colonies a matter of \$200 to \$250.

If space permitted it would be easy to mention one or two other items that would make the amount considerably more. It would be comparatively easy to select a hive that would secure the repression, if it were permissible at no time of the year to allow more than five Langstroth frames of brood, but it is just as imperative that every cell possible be used previous to June 10, as that unnecessary brood should be prevented after that date. The selection of a hive must be made, therefore, first, with reference to the earlier period.

In the production of extracted honey the size of the hive during this period would not be very material, as honey in combs at the side of the brood-nest would be about as valuable as that in combs above it, but for the production of comb honey it should be of such size as to give as nearly as possible merely room for the brood, and thus secure the storing of the honey in the sections where it will be of double value. In this locality only a small proportion of colonies would occupy more than eight Langstroth frames with brood prior to June 10, so I deem a hive of greater capacity than that objectionable for the production of comb honey. If the field was lightly stocked with bees, so that as large an increase as possible were desirable for the gathering of the crop, each queen could

be given abundant room for the display of her powers by exchanging combs between the stronger and weaker colonies.

This line of thought would seem to fix our choice of hives on the eight-frame Langstroth, but it has points which fail to give satisfaction when it is proposed to put contraction in force, about June 10. Still this contraction, which, in practice, is largely confined to swarms, can be accomplished with this hive by removing three of the frames and filling the vacant space with dummies. This accomplishes the desired contraction, but it also contracts the upper surface of the brood-nest. This is not desirable, since, for the best work in the sections, it is necessary that the heat and the aroma of the brood-nest should ascend freely to all parts of the section-case.

At this point I am sometimes moved to pray those who are so sure they can breed the swarming instinct out of the bees, to breed out also the disposition to build combs perpendicularly, and bring them to build their combs horizontally. With this accomplishment we would have the perfection hive indeed—simply frames piled horizontally on the top of one another with the ability to make its capacity suit the colony or the apiarist by simply removing or adding frames without in any way affecting the desirable qualities of the hive. If this should fail, will some one give us a hive composed of sections about three inches in depth which may readily be placed one above another without bee-spaces between them and yet without crushing bees. I want them so they could be easily furnished with foundation for the combs, but I would not care to have the combs movable. In the absence of this, we have as the nearest approach to it the Heddon hive with sections approaching six inches in depth. The sections have bee-spaces, but the spaces are not undesirable when the sections are of that depth. As each section of this hive has the capacity of five Langstroth frames, it answers excellently for the purposes of contraction, but for most colonies previous to the period of contraction, one section is too small, and two are too large to satisfy me fully. I am sometimes inclined to think that if a portion of the sections were of the depth of about three inches they could be combined with the others in a more satisfactory way.

Without entering into further details I have sufficiently indicated the characteristics which I think the hive to be adopted should possess, so let it suffice to say that either of the hives indicated will answer equally well, with any other, all the other legitimate ends of the apiarist.

R. L. TAYLOR.

Mr. Hutchinson—Complete combs could be used horizontally for making a brood-nest. Brood can be reared and honey stored in a comb placed in a horizontal position. I once laid a comb of honey over a colony destitute of stores. It was overlooked for some time, and when I finally found it it was a comb of brood.

Mr. Doane—I have used the wide, deep top-bars. They help to prevent brace and burr combs, but not to any great extent. They help mostly by preserving the proper bee-spaces. With the old style of top-bars, they sagged, and then the bees had to make ladders in order to get into the supers. If the spaces are right no ladders are needed.

Mr. Fordyce—I have used the Hoffman frames, and I don't like them. They are stuck together too solid with propolis. A hatchet is needed to get them apart when once they are well stuck together.

Mr. Bingham—Any practical bee-keeper ought to know that of all the traps made to catch bee-glue, the Hoffman frame beats them all. With black bees, there was not so much need for closed-end frames, but the Italians are so given to crowding in all of the honey possible near the brood-nest, that much of it is crowded in behind the end-bars. When I bought Italian queens, and paid \$10 apiece for them, I was not long in learning that something must be done if I didn't want several pounds of honey in each hive tucked away behind the end-bars instead of in the sections. For this reason I made closed-end frames.

(Concluded next week.)

A New Binder for holding a year's numbers of the American Bee Journal, we propose to mail, postpaid, to every subscriber who sends us 20 cents. It is called "The Wood Binder," is patented, and is an entirely new and very simple arrangement. Full printed directions accompany each Binder. Every reader should get it, and preserve the copies of the Bee Journal as fast as they are received. They are invaluable for reference, and at the low price of the Binder you can afford to get it yearly.

Questions AND Answers

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Material for Cushions and Quilts.

I have several barrels of cork-dust which I am going to use in cushions and double-walled hives. What would you prefer for making cushions and quilts—duck, burlap, or something else, not considering expense? Considering expense, what would you use? W.

ANSWER.—Not considering expense, I should hesitate between duck, burlap and heavy sheeting or cotton cloth. Duck would last longer than sheeting, but being stiffer it would not fit down so nicely over frames. Having regard to expense, I would take burlap or sheeting, whichever cost the less, and that would generally be burlap.

Bees Eaten Into by Mice.

I send you by this mail a few dead bees. You will notice there is a small hole on their backs, between their wings. Three of my colonies are dying very fast. One of them has lost nearly a quart of bees since putting them into the cellar. What is the matter with them? A. C. M., Canada.

ANSWER.—Yes, each bee has a hole scooped out of its back big enough to bury its head in. I've had thousands affected the same way, and so have many others, but some may not have been so observant as you in noticing it. Probably you will find some, however, that are whole. Select a few of these from near the entrance of the hive, and put half of them in one saucer and half in another, setting the saucers somewhere near the hives. Put a tumbler over the bees in one saucer and leave the others uncovered. In perhaps 24 hours you will find the exposed bees with a hole in the back of each, while those that are covered will be found unchanged. The tumbler prevented the mice from getting at the one lot, and they made a neat job scooping out the backs of the other lot.

The bees first die, then the mice eat into them. The cause of death may be because the air in the cellar is foul and needs ventilation, or possibly the hives are closed up too tight. Possibly also the colonies may be very strong with a large number of old bees, and these may be dying off from old age. In that case there would naturally be a good many dead bees.

Moving Bees a Mile or Less.

What is the best method of moving bees from the stands which they occupied last summer and this winter, to another place one mile or one-half mile away? My difficulty results in the loss of bees that return to the old place.

COLORADO.

ANSWER.—You may find that your difficulty will cease if the bees are taken at the right time. There are expedients that may be used with more or less success when one is obliged to move bees a short distance in the working season, but they are not needed at a time when bees have not been in the habit of flying. The common belief is that it is not safe to move bees less than perhaps two miles for fear the workers may return to the old stand on their first flight to the fields. The common belief is correct, and it isn't a very hard thing to imagine a case in which it would not be a safe thing to move a colony six miles or even more. Suppose a region where there is a grove of linden trees, the only pasturage at the time of their blooming within reach, and these trees are three or four miles away. At a time when the bees are busily working on these trees, suppose the bees are moved, (and it doesn't matter if this be at dead of night) to a point three miles beyond the grove, that is six or seven miles from their old home. A worker, starting out from its new home, strikes upon the same old place to which it has been accustomed in the grove, and loads

up. What more natural than for it to return by the familiar route to its old home from which it has been moved?

But bees behave quite differently after having been shut up through the winter. Watch the bees sporting about the hive when they take a cleansing flight early in the spring, and you'll see them flying with their heads toward the hive, just the same as young bees mark the location for the first time. They probably do not fly very far from the hive, and the next time the weather permits a flight they will go through the same performance again. Now if they were moved to a new location just before taking one of these flights, it would be natural to expect them to mark the new location and cling to it, even if it be only a short distance away. So the thing for you to do is to move your bees in the winter or early spring at any time when they have been confined to the hive for some days. There are exceptions to all rules, and I've seen bees taken out of the cellar after the winter's confinement and put on a new stand fly back to the old stand on first coming out. But if no hive was there for them to enter, they would return to their own hive. So if your bees were moved a short distance there might be a case in which some bees would go back to the old place, but if moved half a mile before there is anything for them to work on, and when they have not flown for a week or more, hardly would I expect any to go back. Of course, in any case of moving, there can be no harm in taking the precaution to put a board up before the entrance to make the bees take note of surroundings on first flying out.

Getting Partly-Filled Sections Cleaned Up for Next Season's Use.

In going over last year's stock I find I have quite a number of sections in which the starters have been half drawn out and a small amount of honey stored in them, but not sealed over. The honey was thin and has soured. Will the bees clean them out before storing this year's crop, if put on the hive? and what effect will it have upon the bees? It would not do to market sections with a spot of sour honey in them. I do not like to throw the sections and drawn comb away, but would rather do so than injure the bees. H. J. L.

ANSWER.—It would not be safe to let the bees have sour honey till the weather gets warm enough so they will fly every day, but after that time you need have no fear so far as the health of the bees is concerned. The only question is with regard to the combs being cleaned out fit to use. It would hardly do to risk it by simply putting the sections on early. Indeed it would not be advisable to put them on the hive at all till time for the bees to commence filling them. Put the sections out somewhere away from the hive so the bees will feel it's public plunder, and they will much more surely clean out all that's liquid. Whether they will clean out all the granules is a question. It's a good deal safer to have the sections cleaned out in the fall before any granulation takes place. And this must be not on the hive but away from it. If you risk getting them cleaned out in the spring, be sure to set them out early enough so the bees will have plenty of time to work at them before there's any thought of the harvest.

Fastening Foundation in Brood-Frames—Bi-sulphide of Carbon.

1. What is the best way for a novice to fasten foundation in brood-frames?
2. Is patent wired comb foundation better and easier to handle than other kinds?
3. I notice on page 23, that Mr. Chapman explains the use of bi-sulphide of carbon for killing worms, gophers, mice, etc. I suppose it would be perfectly safe if kept away from fire. How long would he leave the saturated rags in a granary to kill mice? Could they be left there without doing any harm? In killing gophers, would it not be best to place the rag in the hole?

W. B.

ANSWERS—1. A safe and easy way is to have a saw-kerf in the under side of the top-bar into which the foundation will easily go. For tolerably heavy brood foundation the kerf should be $5/32$ of an inch wide. For lighter foundation the kerf should be narrower, and wider for heavier foundation. The kerf should be $1/4$ inch deep if the top-bar is thick enough to allow it. Turn the frame upside down, slip the foundation into the saw-kerf, then drop a few drops of melted wax along the top-bar to fasten the foundation. You can perhaps do this most easily by making a wax candle. Take a string not as heavy as common wrapping-twine, pack around it scraps of foundation or other beeswax till it is $1\frac{1}{2}$ or 2 inches thick.

No matter about its looking pretty. Light your candle, and when fairly started hold it to one side and let the drops of melted wax fall where you want them. The frame should have been previously wired, and perhaps the best way is to have four horizontal wires, ordering the frames to be pierced for wiring when you order your frames. The foundation may come close to the sides, that is, close to the end-bars, but must not come clear to the bottom or it will sag. Leave a space of about $3/8$ of an inch at the bottom. To fasten the wire, in the foundation hold the frame over a lighted lamp or gasoline stove, wire side down. Move the frame along so the wire throughout its whole length will be held over the lamp and melt its way into the foundation. Aid this by gently pressing upon the foundation as it passes over the lamp. You will soon see how fast you should move. If you go too fast the wire will not be heated enough and will not sink into the foundation. If you move too slowly the foundation will melt. You will find that the wire heats rapidly and the wax slowly, so the hot wire will melt its way into the wax before the adjoining wax has time to melt, and if you make a good job it will look as if the wire had been made in the foundation.

2. As the wire is already in the foundation, of course there ought to be that much less trouble.

3. If no fire comes near the fumes of course there is no danger of explosion, and probably the fumes will disappear in the course of 24 hours. If the saturated rags should be left permanently in a granary no harm would result, but if the place be too open the fumes would not produce the full effect. For gophers it might be the best to pour the sulphide in the holes and promptly stop the holes. This advice is open to correction by any one who has had more experience. I've had none.

Changing the Flavor of Comb Honey.

Is it impossible to change the flavor of comb-honey?

E. B.

ANSWER.—Yes, you can make a decided difference in the flavor by keeping it in a damp place so as to sour it. If it is not very thoroughly ripened you might even change its flavor for the better by keeping it in a warm, dry place. But to change by any other process from one flavor to another without breaking the comb is very likely impossible.

Best Sugar to Use for Feeding.

1. Is it not generally considered that confectioners' "A" sugar is really more pure than granulated sugar? Is it not true that bluing is put in granulated sugar for the same purpose that our women put bluing in the water in which they rinse clothes?
2. If you were going to buy sugar for feeding, would you get granulated, or confectioners' "A"?
3. Is the ordinary powdered, or pulverized, sugar usually pure? or is it generally adulterated with starch? If it is adulterated with starch, does it do any harm if used in making feeding-candy for winter use?


SUBSCRIBER.

ANSWERS—1. One of the things about which there's a big lot of ignorance scattered around is regarding the matter of sugar, and I've more of that ignorance than I care for. In England they say that beet sugar is unfit for bees, and you can buy sugar there, as also in Europe, that is guaranteed pure, for bees. I tried to get some information as to sugar through the Chicago Record, one of the ablest and most independent papers in existence, and they promise to look the matter up, but never got any farther than to tell something about the preliminary part, getting the unrefined sugar from beets. I can hardly believe that Havemeyer has that paper in his power, but it seems to me that from some source we ought to be able to find out about the difference between cane and beet sugar when refined, what adulteration exists and how to detect it, what grade of sugar is likely to be most free from adulteration, and such other information as would be of value not only to the mass of bee-keepers, but to the great sugar-eating public whose health is probably much affected by the 60 pounds per capita annually consumed.

As to bluing, I can only make a guess, and I guess you're right in thinking the washerwoman and the sugar refiner have the same reason for using bluing, to prevent any yellowish look. It may not do the bees any harm, but it surely does them no good. Some samples of sugar have much more bluing than others.

2. I don't know which is best, and always use granulated.

3. I'd rather have it without the starch, decidedly. Having starch in it is something like obliging them to eat pollen.



AMERICAN Bee Journal

 ESTABLISHED IN 1861

 OLDEST BEE-PAPER IN AMERICA

 GEORGE W. YORK, Editor.

 PUBLISHED WEEKLY BY

 GEORGE W. YORK & COMPANY,

 118 Michigan St., CHICAGO, ILL.

 \$1.00 a Year—Sample Copy Sent Free.

 [Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

Vol. XXXVII. CHICAGO, ILL., FEB. 18, 1897. No. 7.

Editorial Comments.

Dr. Besse Exonerates Mr. Newman.—Dr. H. Besse, of Delaware Co., Ohio, who gave us unsolicited permission to publish his letter (on page 40) regarding the National Bee-Keepers' Union not aiding him in his sweet clover suit, wrote us as follows, Feb. 5:

MR. GEORGE W. YORK—

My Dear Sir:—I wish to modify my statement as made in the American Bee Journal, page 40, after reading a postal card from my friend, Mr. Newman, saying that he is exceedingly sorry that letters to my attorney, or from him, have gone astray, and thus interrupted correspondence between us. Now, after reading Mr. Newman's explanation, I entirely exonerate him, and wish you to state the same in the Bee Journal, and much oblige.

Yours respectfully,

H. BESSE.

We are glad to give the foregoing as conspicuous a place as we gave Dr. Besse's former statement, for we do not desire, unjustly, to injure any man, and surely not Mr. Newman. But while the above letter exonerates him in this matter, we are still of the opinion that the Advisory Board of the Union should have been willing to aid Dr. Besse in his lawsuit.

The Illinois Convention will be held in the Senate Chamber of the Capitol at Springfield, next Wednesday and Thursday, Feb. 24 and 25. Besides discussions, the following subjects appear on the printed program:

What Can the General Bee-Keeper Do to Improve His Stock?—C. P. Dadant.

Should Sweet Clover be Counted as a Noxious Weed?—Dr. C. C. Miller.

What the Statute Classes as Noxious Weeds—Jas. A. Stone.

What Can be Done to Make the State Association More Effective?—A. N. Draper.

What Combined Effort is Needed by Bee-Keepers?—George W. York.

As an open rate of fare and a third for the round trip has been secured from all points in the State, and no bother about railroad certificates, there ought to be a large attendance.

The Wisconsin Convention.—Last week we promised to have something to say in this number regarding the Wisconsin State convention held at Madison, Feb. 3 and 4, which we had the privilege of attending.

We left the Chicago & Northwestern passenger station in Chicago at 8:15 o'clock, Wednesday morning, and arrived at Madison at 12:30. It was a delightful trip in one of the elegant parlor coaches found on that splendid railroad. For

real comfort, that is the way to travel in the daytime. Returning, we came by way of Milwaukee, never having been in that city before.

Well, upon alighting from the cars at Madison, we found Mr. N. E. France and Mr. Harry Lathrop waiting for us. We had never seen Mr. France. Had gotten the idea that he was a big man—up and down—but found him about our own height—5½ feet. Of course he's a big man in a bee-keeping way.

After a hearty dinner at Simon's Hotel, we went to the Capitol building, where the convention met. Among those present, besides the two already named, were, Pres. Franklin Wilcox, Vice-President J. J. Ochsner, J. W. Van Allen (of Van Allen & Williams—bee-keepers and reversible extractor makers), R. H. Schmidt (of R. H. Schmidt & Co., bee-supply dealers), A. G. Wilson, Rev. H. A. Winter, Jacob Huffman, John Hanko, and J. Forncrook (another bee-supply dealer).

About the first thing on the program was a paper by the writer, on "Marketing Honey for 1897," which was followed by a general discussion. We will not attempt to go into any details, as Secretary France will soon send a report for publication.

The amalgamation question was brought up, and thoroughly considered, and with the exception of but one vote, all were in favor of uniting the two existing national bee-societies as soon as possible.

As the State legislature was in session, Mr. France was kept busy looking after the Foul Brood Bill before the committees, and also the attempt to have sweet clover removed from the list of "noxious weeds" in Wisconsin. If the present legislature doesn't hasten to grant the latter request, it will simply be a case of "Where ignorance is bliss," etc. We learned that it was by reason of some petty spitefulness that sweet clover is now classed as a noxious weed in Wisconsin. We hope the legislature will not only straighten their record on sweet clover, but also be ready to grant protection to bee-keepers from the ravages of foul brood among their bees. We would like to see Wisconsin win some fame along the line of a foul brood law. The opportunity is hers. Will she improve it? Only her wise legislators can answer.

Nearly all in attendance at the convention were extracted honey producers, so most of the discussions were along that line.

Madison is a beautiful city of some 12,000 population, surrounded by four pretty lakes. The State University is located there, for which no finer site could be found. We understand the student attendance is large. The campus or grounds could not be excelled. Along one side there is what they call "Linden Drive," being a roadway perhaps one mile in length, on either side of which is a row of graceful linden or basswood trees, perhaps 20 feet apart and 30 feet high, the trunks about 6 or 8 inches in diameter. We should like to see them in blossom, with the myriads of bees that must swarm upon them to gather the precious nectar.

The ice on one of the lakes (Mendota) was nearly 18 inches thick, and as clear as crystal. A number of men and teams were harvesting it. It was a sight to see them cut it into chunks perhaps 3 feet square and load it upon wagons, all with horses. It was quick (as well as cool) work. Acres upon acres of beautiful ice there, to be had simply for the taking.

They have a number of ice-boats on the lakes that must be something about as fast as "greatest lightning," when the wind blows a gale. We could almost imagine these white-winged argosies going with such rapidity that their youthful passengers would scarcely know "where they are at." But the morning we saw them they were not "sailing."

We were surprised not to see more bee-supply dealers and manufacturers at the convention. "The woods is full of

them" in that State, and we had expected to meet most of them. Many of them we have not had the pleasure of seeing.

We returned home Thursday afternoon, feeling well repaid for having made the effort to be present. We hope soon to have the convention report, giving the interesting details of the meeting.

Oh, yes, we almost forgot to say that the Association is in great need of funds to defray the expenses incurred by attempting to get the Foul Brood Bill past; also for postage, printing, etc. Secretary N. E. France (of Platteville, Wis.), can't pay all that out of his own pocket, and he should not be expected to do it, when the membership fee is only 50 cents a year. Now, every Wisconsin reader of the Bee Journal send Mr. France your little 50 cents at once, and help your State organization. If you can't attend the annual meetings you can aid by sending your money. Do it right away, and thus encourage Sec. France, who is working hard.

More Honey-Commission Frauds.—It seems that Horrie, Wheadon & Co., are having successors in their line of fleecing bee-keepers, not only in Chicago, but also in other parts of the country.

In a recent issue of the Chicago Tribune appeared the following paragraphs referring to John A. McCutcheon & Co., who, by the way, are still advertising in the Progressive Bee-Keeper, as shown by the February number lying before us:

"There is a padlock on the front door of No. 222 South Water street, a store until recently occupied by the commission firm of John A. McCutcheon & Co., and there is nothing but atmosphere and an odor in the store room formerly filled with poultry and other farm produce.

"When McCutcheon left town about two weeks ago he was accompanied by Miss Emma Wichman, a handsome young woman who has been his book-keeper and cashier for four years. The girl's mother does not know whether the couple is married or not. No one else seems to know, either."

We are told that McCutcheon & Co. swindled their bank out of \$500, by overdrawing their account. Their advertisement in the Progressive reads thus:

"In shipping honey to the Chicago market one of the most urgent points to be followed is to know that you are consigning or selling it to an old and responsible house. We handle honey quite extensively, but not exclusively. We claim to be in better position to net you better results than such houses who make a specialty of honey, for the reason that we cater to the best class of retail merchants in our city; they all handling honey find it to their advantage to purchase of us while buying their other supplies. It will be to your interest to correspond with us before making disposition elsewhere. Write for stencils, prices, etc. We also handle beeswax extensively."

We are also informed that McCutcheon is one of that whole gang of commission frauds—Terrill Bros., Horrie, Wheadon, Bartling, etc.

The next fraudulent outfit we wish to call the attention of bee-keepers to is the Williamson Produce Co., of New York City, supposed to have been backt by E. A. Williamson, and managed by his brother, F. W. Williamson, who now has gone on a "vacation," and can't be found. Mr. H. Root, of Onondaga Co., N. Y., lost nearly \$100 worth of honey by this concern. He has tried to get a settlement of his claim through the courts, but all to no avail. The firm in whose hands he put his claim for collection, after a fruitless attempt, wrote him as follows:

"We have done all in our power to bring them [Williamson Produce Co.] to terms. . . . Their sign is taken from their place of business. This was one of the fake concerns (of which there are more), and you are not the only sufferer. We are very sorry that you should be the loser, but if bee-keepers will continue to ship to parties of whom they know nothing, they must take the consequences."

And the latter part of that last sentence is just the plain truth. When will bee-keepers learn not to ship honey to new

firms, unless such firms have undoubted recommendations? And why they do not, before shipping, enquire of the publishers of the bee-paper they take and read, is beyond us. But perhaps the majority who have recently been "caught" don't take a good bee-paper, thinking that they "know it all" anyway. Well, it may be heartless in us to say it, but, really, if some bee-keepers would rather give lots of their money (honey) to fraudulent commission-men than to pay a small subscription price for the bee-paper, they simply "must take the consequences."

Still another concern is heard from, and seems to deserve a little free advertising. Wm. H. Unger, operating under the firm name of Unger & Co., Michigan St., Buffalo, N. Y., is anything but a straight commission man, so reports Gleanings. It ought to be needless to caution bee-keepers not to ship honey to people who are not well recommended. Far better to donate your honey to some orphanage and be done with it, than to give it to dealers of no reputation, or that are not well known.

Result of the National Union Vote.—The whole number of votes cast were 167. All the old officers were re-elected for 1897, as follows:

For President—Hon. R. L. Taylor, 127 votes.

For Vice-Presidents—G. M. Doolittle, 137; Prof. A. J. Cook, 132; Hon. Eugene Secor, 114; A. I. Root, 104; and Dr. C. C. Miller, 95.

For General Manager, Secretary and Treasurer—Thos. G. Newman, 131.

On amalgamation—Against, 106; for, 51.

Evidently the majority of the members of the National Union want no change in any way. All right. That settles it.

The Weekly Budget.

MR. WM. STOLLEY, of Nebraska, called at our office Feb. 3, while we were at the Madison, Wis., convention. We regret very much not seeing him, as it is the second time he has called and we were away. Perhaps the third time will be more successful.

MR. WM. IDEN, of Kosciusko Co., Ind., when sending his subscription for another year, Jan. 31, wrote thus: "I am out of the bee-business at present, but I feel like helping you along in your war on swindlers. The American Bee Journal is doing a good work for honey-producers."

MR. C. W. LEARNED, of Michigan, when sending his second order for our alfalfa honey, offered on another page, said this, Feb. 11:

"There is no call for any better honey than this; it sells the best of any I ever handled. I intend to keep it on hand always. I sell at 12½ cents per pound, and there is no fault found."

MR. WM. G. HEWES, of California, suggests in Gleanings that bee-keepers "make an effort to have Congress place an internal revenue duty on glucose of two or three cents or upward." He thinks that would help to remove it from the list of honey adulterants. Guess he's about right. And that would be a good way to raise necessary revenues. We just wonder if Mr. H. always cuts to the line as close as he "Hewes" in this.

MR. GEO. W. BRODBECK, of California, we regret to learn, reports that he past through a severe siege of the grippe in January. He wrote, Jan. 28, that his bees (in Los Angeles Co.) "were dumping over each other in their scramble to get into the hive." He brought them down from the bee-ranch to their present location last fall, very weak, he says, "but since the eucalyptus has begun to yield nectar they are building up fast, and from now on until July 1, means work, from morning until night, and by and by, when the days get hot, I make the drive back and forth from the apiary (35 miles) at night. So you see there is not much play in connection with California bee-keeping."

CALIFORNIA in **3 Days**
FROM CHICAGO
 VIA THE
CHICAGO, UNION PACIFIC
AND NORTH-WESTERN LINE
"The Overland Limited"
 LEAVES CHICAGO DAILY VIA THE
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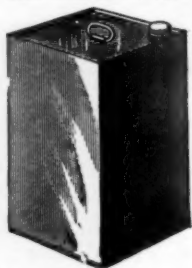
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Latest and Best Apiarian Supplies

G. B. LEWIS CO., WATERTOWN, WIS.



Finest Alfalfa Honey!

IT SELLS ON TASTING.

The Honey that Suits All
Who Buy It.

Low Prices Now!

We can furnish **White Alfalfa** Extracted Honey, in 60-pound tin cans, on board cars in Chicago, at these prices: 1 can, in a case, 7½ cents per pound; 2 cans in one case, 7 cents; 4 cans (2 cases) or more, 6½ cents. The Cash must accompany each order. **Fine Basswood** Flavor Honey at same price; also in 270-lb. barrels.

A sample of either honey will be mailed to an intending purchaser, for 8 cents, to cover postage, packing, etc. We guarantee purity.

Now it seems to us here is a splendid chance for any bee-keeper to supply his home demand after his own crop is all sold. Or, why not begin now to create a local honey-trade? Order one 60-pound can first, and start out among your neighbors and friends, and see what you can do. You ought to get at least 12 cents per pound in 5-pound lots, or 40 cents for 3 pounds. Some may be able to do even better than that, though we think that enough ought to be sold at these prices to make a fairly paying business out of it. Give it a good trial. Push it. It may grow into a nice winter's work for you.

GEORGE W. YORK & CO., 118 Michigan Street, CHICAGO, ILL.

ONE HUNDRED DOLLARS AN ACRE

Can only be made from one source—**POULTRY**. Wheat and corn do not pay by comparison. You may smile, but have you ever tried keeping poultry *right*. The egg basket is a handy source of revenue these hard times. **THE POULTRY KEEPER**, 321 41 PARKESBURG, PA. 50 cts. a year tells how it is done. Sample *free*. The paper 1 year and four grand Poultry Books, \$1. Write to-day.

Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

Flavor of Extracted Honey from Old Brood-Combs Compared with Section Honey.

Query 44.—Can you get extracted honey from old brood-combs of as fine flavor as that in first-class sections?—MICH.

H. D. Cutting—No.

Eugene Secor—Yes.

Chas. Dadant & Son—Yes.

Mrs. J. N. Heater—No, sir.

Dr. A. B. Mason—No, sir'ee.

G. M. Doolittle—I so believe.

Prof. A. J. Cook—Just as good.

Dr. C. C. Miller—I'm afraid not.

Jas. A. Stone—I have never tried it.

R. L. Taylor—Yes, if they have been kept in good condition.

E. France—No. But there is not as much difference as one would think.

Mrs. L. Harrison—I should think that the flavor would be as fine, but be darker in color.

Dr. J. P. H. Brown—That from the sections will have the best flavor and the best color.

P. H. Elwood—No, nor from any other kind of comb will the flavor be as good as comb honey.

J. A. Green—Yes, if the combs have not been placed so that pollen has been deposited in them.

C. H. Dibbern—Yes, the flavor seems to be all right; but it is usually darker and not so salable.

W. G. Larrabee—Not unless the frames have been used for nothing but extracted honey for several years.

Emerson T. Abbott—If the old combs are clean, I think the honey will be all right. At least this has been my experience.

Rev. M. Mahin—I have not seen any difference, if the honey is extracted from the old combs as soon as it is sealed, or not long after.


G. W. Demaree—Undoubtedly, I can. As a rule, bees clean and polish the cells of both old and new combs thoroughly before depositing honey in them.

J. M. Hambaugh—While the flavor of the two will probably be the same, the color of the honey from the old combs may be darker. This, however, is owing to the condition of the old combs.

A. F. Brown—Yes, beyond question. I have produced many tons of choice extracted honey in old combs, four, five, or ten years old. The fine flavor comes from allowing the bees to thoroughly ripen it in the hive.

J. E. Pond—It will depend entirely upon what the bees fill them with. I prefer old combs to extract from, as they are stronger, and will stand the work of extracting better. I am assuming, however, that the old combs are clean and nice before the bees fill them.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the **BEE JOURNAL**. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.



BROKEN DOWN IN HEALTH AND SPIRITS

—the unhappy and hopeless condition of many a wife and mother in the country home, all because they have not tried a remedy that is within their easy reach. One which has brought more health, happiness and sunshine into life than any remedy ever known. Its name is

Warranted Safe Cure

It never fails in

BRIGHTS DISEASE, URINARY DISEASES, FEMALE COMPLAINTS, GENERAL DEBILITY, AND MALARIA.

It is a purely vegetable preparation, and numbers its cures by thousands. Try it and walk in newness of life.

Large sized bottles or new style smaller ones at your nearest store.

Mention the American Bee Journal.

Honey - Clovers !

We have made arrangements so that we can furnish seed of several of the Clovers by freight or express, at the following prices, cash with order:

| | 5lb | 10lb | 25lb | 50lb |
|----------------------|-------|--------|--------|--------|
| Alsike Clover | \$.70 | \$1.25 | \$3.00 | \$5.75 |
| Sweet Clover (white) | .65 | 1.20 | 2.75 | 5.00 |
| White Clover | .90 | 1.60 | 3.75 | 7.00 |
| Alfalfa Clover | .65 | 1.10 | 2.70 | 5.00 |
| Crimson Clover | .55 | .90 | 2.00 | 3.50 |

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.
Your orders are solicited.

GEORGE W. YORK & CO.,
CHICAGO, ILLS.



HATCH Chickens BY STEAM—
With the **MODEL EXCELSIOR Incubator**
Simple, Perfect, Self-Regulating. Thousands in successful operation. Lowest priced first-class Hatcher made.
GEO. H. STAHL,
114 to 122 S. 6th St. Quincy, ILL.

44A26t Mention the American Bee Journal

Yell, O Yell, O'YELLOWZONES
Yellowzones for PAIN and FEVER.

Mention the American Bee Journal.



RUMELY
Traction, Portable and Semi-Portable. Simple and Compound. Also Threshers, Horse Powers, Saw Mills
ENGINES
Send for illustrated catalogue free. Ours are equal to all—Surpassed by none. "It's a way we have."
M. Rumely Co., Laporte, Ind.

Mention the American Bee Journal.

General Items.

Immense Growth of White Clover.

Bees, so far as a crop of honey was concerned, were a complete failure here, but the wet season started an immense crop of white clover, that we hope will even things up this year.

A. C. MATTHIAS, M. D.
Putnam Co., Ohio.

Report for 1896.

I started last spring with 2 colonies, increased to 8, and took about 30 pounds of nice, white clover honey. I get the American Bee Journal every Friday, and it is a welcome visitor at my home.

S. H. STOFFER.

Blair Co., Pa., Feb. 3.

Bees Doing Well.

We are having the coldest weather we have had this winter. I am very well pleased with the Bee Journal. My two colonies of bees are doing very well so far. In this section of the country the most of the people keep all the way from 2 to 10 colonies, which they handle on the old-fogy style. One of my neighbors is wintering his bees in a way which, if it proves all right, I will explain later on.

JAMES A. DAVIS.

Appanoose Co., Iowa, Jan. 25.

Yellow Sweet Clover—Amalgamation

I have been interested in what I have read in the Bee Journal about sweet clover as a honey-plant, and would like to ask where I can get yellow sweet clover seed in small quantities. The basswood is being rapidly cut off, and bee-keepers who own farms ought to raise Alsike, white and sweet clover—something that provides bee-pasture as well as ordinary farm crops.

I, for one, am in favor of amalgamation, and think that a majority of the members of the old Union will vote that way. The old Union has outlived its usefulness, when it fails to take up such cases as are mentioned on page 40. We who pay our dollars as members want protection, if necessary.

Bees are wintering fairly well up to date, but the worst part of the winter is to come yet. I have 80 colonies packed on the summer stands, and 125 in the cellar. The honey crop was fairly good here from basswood and buckwheat. Success to the "Old Reliable."

WARD LAMKIN.

Cayuga Co., N. Y., Jan. 26.

[Just as soon as we find some of the yellow sweet clover seed, we will announce in these columns where it can be had. At present we do not know where there is enough to be worth mentioning.—EDITOR.]

Report for the Past Season.

The past season was not as good as expected. The spring opened very bright, and the bees were in pretty good condition to gather a big crop of honey. The white clover began to bloom the last of May, and the forepart of June the bees did very well on it—they stored the honey in the supers quite well. The best of the honey-flow stopt the latter part of June, but the bees still gathered enough to keep them in good condition, and all colonies were very strong in bees. White clover has a good stand for next year.

In July the basswood began to bloom, and they were just loaded with blossoms—look at us if we were going to have a big crop of honey. When they were in mid-bloom the bees did not work on them yet, which I did not know any reason for, but as I examined the blossoms, by picking them apart with the fingers, there flew out lots of little insects, which look like little,



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A VEGETABLE GARDEN FOR THE COST OF POSTAGE.
PRIZE NOTE THE FIVE
COLLECTION, ASSORTMENT. PKGS.
Radish—10 varieties; Lettuce—9 kinds; Tomatoes—7 finest; Turnips—6 splendid; and Onions—6 best varieties.
SEND TEN CENTS to cover postage and packing, and receive this valuable collection of seeds postpaid. **GUARANTEED TO PLEASE.** Write to-day and receive my new Seed and Plant Book.
H. W. BUCKBEE, Rockford Seed Farm.
P. O. Box 537 Rockford, Ill.

Mention the American Bee Journal.

Yellowzones
For Pain and Fever
An honest, efficient remedy for all Fevers. Headaches, Colds, Neuralgia, Grip, Rheumatism, etc. A general service remedy that will please you, OR MONEY REFUNDED.

"It's a rare pleasure to find such a remedy."
"They knock headaches clear to the horizon."
"Too much cannot be said in praise of them."
"I was suffering from Neuralgia, and found quick relief."
"I got more relief from Rheumatism in 12 hours after taking Yellowzones than from all else, tho I was a skeptic."

See A. B. J., pages 809, 812, Dec. 17.


1 Box, 25c.; 6 Boxes, \$1; most orders are \$1.

W. B. House, Drawer Detour, Mich.
Mention the American Bee Journal. 5D3t

Early Italian Queens!

Up till the middle of April at these prices:
Untested, 75c.; Tested, \$1.25.

E. L. CARRINGTON,
5A17t De Funiak Springs, Fla.



BIG MONEY IN POULTRY
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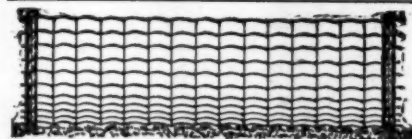
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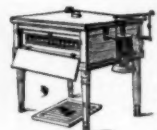
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WILL W. SHEPARD.
Honeye Falls, N. Y. (in letter Jan. 18, '97) to
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M. H. HUNT, Bell Branch, Mich.
WHEN ANSWERING THIS ADVERTISEMENT, MENTION THIS JOURNAL.

white flies, and which I suppose was the cause of their yielding no nectar in this locality.

We generally get most of our honey crop in the fall, from wild flowers, which grow on the lowlands of the Mississippi bottoms, but as the high water stood on the bottoms too long for a good field of flowers, some of the honey-plants never showed up at all, and those that came did not seem to yield any nectar. All the colonies were light in stores, and we had to feed them in the fall for winter stores.

Last fall we had lots of rain, and white clover looks better than ever.

We put our 88 colonies in the cellar Nov. 29, and they are very quiet and in good condition so far.

I hope that the two Unions will unite, when I think every bee-keeper will join it.

In one respect it was a streak of luck that we did not get a big crop of honey this year, or maybe we would have been caught by some dishonest honey-dealer, too. The American Bee Journal did all it could to save the bee-keepers from getting robbed by the honey-swindlers. I think the way the dishonest honey commission men cheated some of the bee-keepers out of their honey will be a warning to those lucky enough not to get caught by them; but there will be some more new dishonest honey-men, if nothing is done in the line to prevent it.

The American Bee Journal is more crowded than ever with good, interesting information, and I hope the bee-keepers will stand shoulder to shoulder with Mr. York to guard their own interests.

EDWARD YAHNKE.

Winona Co., Minn., Jan. 14.

Experiment—Difference in Colonies.

It seems that we Texas folks have no representative in the "Old Reliable." One would perhaps conclude that the bee-keepers in the South were all dead, or moved further south, got rich, and had gone into the railroad business. Such is not the case. Many of us are still kicking against great odds and little ends.

Bees are in fair condition, the winter mild, rain plentiful, and the outlook for an early honey-flow from horsemint is excellent. The whole earth, in this locality, is covered with the plant.

The writer and a neighbor—Uncle John Carns—have conducted an experiment relative to the cause of such a vast difference between colonies situated in the same yard. The results of our experiments have proved very conclusively, to my mind, that if all queens are well developed, not older than two years, purely bred, all combs straight in the brood-chamber, sufficient supplies for brood-rearing in early spring, all run for extracted honey, and work done in order, there will not be a difference of five pounds between the colonies. Until we can have uniformity along this line, we cannot claim to have reduced apiculture to a science.

We frequently hear bee-men say that some colonies did very well, while others did nothing, and will have to be fed. In cases like this, all else being favorable, I would advise procuring a new queen, and the immediate execution of the old one.

C. B. BANKSTON.

Burleson Co., Tex., Jan. 27.

Results of the Last Season.

I commenced last spring with 30 colonies, and 3 weak ones—one had lost its queen; as soon as I ascertained the fact, I sent to Texas, and after waiting about two weeks I received a queen. This was the beginning of May. I had given up getting one by that time. My queens began to lay, so I gave them eggs in the comb; they built a queen-cell, and the queen was hatched, but I had received my queen. This was near the first of June; I made a nucleus, putting the queen which I had received therein. In two or three days I opened the hive, and to my surprise not a bee was to be

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seen—queen and all gone. I then lookt at the other hive that I had given a comb with eggs, and no queen to be found there, but they had started worker-brood. I then took the "A B C of Bee-Culture," and there I found a remedy. I put an empty hive in its place as nearly the same in color as possible; then I took the other colony off about 10 rods, shook all the bees in the grass, and returned the comb to the empty hive, till I got all the combs back, save one that contained worker-brood. I then gave them a queen-cell ready to hatch, and in about 48 hours the queen was out. I waited till she became fertile, then I gave them a frame of brood. By fall I had a good colony.

Now I will return to my nucleus: I took the comb of brood and gave it to another colony, and in due time they all hatch.

The 30 colonies all sent out a prime swarm. One of the swarms clustered on a tree in the city. I had enough swarms later on to make me 75 colonies, but some were rather light.

I got 400 pounds of comb honey, mostly basswood and clover, and 200 of extracted. Clover lookt splendid the first of this month, then it was covered with snow. We

are having splendid sleighing at this date. The mercury on the 24th, at sunrise, was at zero; on the 25th, 6 degrees below, with high winds.

JACOB MOORE.
Ionia Co., Mich., Jan. 28.

Surrounded with Honey-Plants.

I have built a small house and a good hen house on two acres, where there are large fields of alfalfa all around, acres of the common white sweet clover within a few hundred yards, with a good lot of cleome growing in the unbroken pasture above the ditch and ditch banks, roadsides, etc., beside a pretty varied wild flora due to dirty farming and unused patches; and plenty of cottonwood and willows on the ditch bank and Lapoudre river.

Weld Co., Colo. WALTER A. VARIAN.

Are Bees Domestic Animals?

To the above question I answer no, not if I understand the meaning of "domestic."

1st. Because you cannot tame them as you do other animals. For instance, the bees in the timber are just as tame as those

in the hive, and the bees in the hive will sting just as readily as the bees in the timber.

2nd. They are not domestic animals because there is no assurance of their remaining; they may be in your hive to-day and somewhere else to-morrow, and you cannot identify them unless you follow them from your hive to where they go. If your cow or horse goes to your neighbor, you go and identify your property.

3rd. But the bee is an animal in every sense of the word, because it belongs to the animal kingdom. In nature we have three kingdoms only—the animal, mineral and vegetable—and the bee is not mineral nor vegetable, so it must be animal. But some say it is a bug or insect. What is an insect if not an animal? Four or five years ago the board of supervisors in our county concluded they would tax bees, because they were profitable to the farmer. Part of the assessors assest them, and part did not, and the board were afraid to try the merits of the case in court, and dropt the case, and did not assess bees any more.

The bee is not taxable property in Iowa, because all animals must be six months old in order to be taxable property—except dogs, and they are not taxt according to value, but per capita. So I take the position that the honey-bee is an animal, but not a domestic animal. O. P. MILLER.

Guthrie Co., Iowa.

Wintering Bees.

I put my bees into winter quarters Nov. 17, 1896. I put 18 colonies into a shed open to the south, with cushions, etc., on top of the frames, with the supers on. The hives are about 18 inches apart, packed between and at the back with straw, and covered over with blankets, old sheep-skins, etc. I have 10 colonies in the cellar, where I always wintered my bees before this, but I am getting old, and it is hard work to carry bees in and out of the cellar. I thought I would try the shed for some of them. I left one chaff hive on the summer stand, and one colony in a large, hollow log. I got my son and his hired hand to roll it into the bee-yard, and set it up, and I painted it and put it in good shape, just for fun, and to see what they will do. If they ever fill it, I will put supers on the top.

My bees all seem to be doing well so far. They had a good flight on New Year's day. They came out some to-day. I nailed up boards on the south side of the shed to shade the hives from the sun. One bee-keeper said I would better shut the bees in their hives so they can't fly out and get chilled.

NOAH MILLER.

Iowa Co., Iowa, Feb. 3.

Books on Keeping Well.

In a letter from Illinois, dated Jan. 26, the writer wishes me to tell in the American Bee Journal how to cook, etc. Now it appears to me that he wants to know what is the proper kind of food, and how much, and when is the proper time to eat, etc. Then, again, I am requested by many to write a cook-book on my method of treatment. Well, I have no time to write a cook-book, or any other book, at present, and then the American Bee Journal is not the proper periodical in which to publish such subjects. Now there is any quantity of excellent books published, and if the public will only read them, and then put their precepts into practice, there will be no necessity of being sick. Sickness of all kinds is certainly avoidable. Now I propose to tell the readers of the American Bee Journal a few of those books that I can recommend.

Dr. Emmett Densmore, an English physician's book, "How Nature Cures," single copy, \$2.00, postpaid. It is an excellent work. It tells how to treat all kinds of fevers without medicine, what the natural food of man is, etc.—just what one wants.

Then there is the "New Methods in Health and Disease Without the Use of Drugs," by Dr. W. E. Forrest, 270 pages.

It is a thorough and scientific system, and the means for carrying it out can be found in every home. No expense, and any intelligent person can carry it out or apply it. The new method is just as important in preserving health as in curing disease. Price, \$1.00, postpaid. Dr. Dewey's two books are extraordinarily good; both together, \$3.00.

Dr. Charles E. Page's works, "Natural Cure of Consumption," and "How to Feed the Baby," worth their weight in gold to any one raising babies. "Pneumonia and Typhoid Fever without Medicine," in fact all fevers. He says just as I do, that all fevers can be cured from a few hours to three days. He has treated cases successfully by telegraph, at St. Paul and New York, from Boston.

Then you can get a book on massage, by Dr. Taylor, 85 cents, by mail. That will tell you how to cure almost any kind of disease mechanically, both by hand and machinery, as it is sure to purify the blood and equalize the circulation. Massage is my principal method, although I think I have made considerable advance in my 40 years of practical experience. Understand that, like my bee-keeping, I learned this method before I ever saw the books.

Then there is Dr. Joel Shew's "Hydropathic Family Physician," one of the very best works on hydropathy for family use.

Now understand, my bee-keeping friends, that you can learn by these books a great deal better than I could when I had to pick it up alone, as you might say. I can now step into a sick-room with all the confidence that you can possibly have when you undertake to open and examine a colony of bees, with my knowledge of hygiene, exercise by massage, hydropathy, etc. Instead of killing pain, we remove the cause in a very few minutes, and the pain ceases. The fire bell rings the alarm of fire. What would you do? Stop the bell from ringing? No, by no means. Put out the fire, and then there is no necessity of ringing the bell.

DR. E. GALLUP.

[Upon receipt of the price named, we can supply any of the books mentioned by Dr. Gallup.—EDITOR.]

Poor Season Last Year.

I like the American Bee Journal very much; it is always a welcome visitor. Last season was a very poor one for my bees. I had to feed them. I am a beginner, and have but two colonies, but they are doing nicely.

FRED HASSMANN.

Madison Co., Ill., Jan. 28.

Prospect for a Good Honey-Flow.

We are now about in the middle of our winter, or the time that we keep our bees in their winter quarters. I examined them a few days ago, and found all alive, and in a healthy condition. The prospect is now good for a good honey-flow next season.

S. B. SMITH.

Stevens Co., Minn., Jan. 30.

Did Well Last Year.

Bees did well last year—8 colonies produced over 250 pounds of honey. I have 19 colonies, 4 in Simplicity, 6 in alternating, and 9 in box-hives. I will transfer the 9 to alternating hives next spring. Comb honey sells here at from 12½ to 15 cents per pound, according to quality. Long wave the "Old Reliable."

C. W. DRURY.

Christian Co., Mo., Jan. 28.

Ventilating a Bee-Cellar.

We are having some pretty cold weather here, with a stiff breeze, and I find it rather difficult to keep the temperature of my beecellar right without closing the ventilators more than I like to. At such times the cellar smells quite rank, and the bees get a little restless. I have no doubt but a little

artificial heat, judiciously applied, at such times would be a good deal of benefit. If 5-inch iron piping, water tight, did not cost so much, it would be, where the lay of the land is suitable, a most excellent thing. I have a 6-inch tile subearth ventilator coming into my cellar, and with it there was no difficulty in keeping the temperature right. But the air came in so loaded with moisture that I was obliged to close it. But with a water-tight iron pipe there would be no trouble from that source. I have no doubt but that such an arrangement would be fine for our dwellings.

S. T. PETTIT.

Ontario, Canada, Jan. 26.

Bees Seem Active.

Bees seem to be active this spring. I wintered 75 colonies, mostly in 8-frame hives. I am going to transfer to 12-frame hives soon.

JOHN UPHOUSE.

Skagit Co., Wash., Feb. 2.

Expects a Good Season.

I see in the American Bee Journal that others have such fine weather for the bees to fly out. My 10 colonies were gathering pollen up to Jan. 25. The weather has been like spring. I think the coming season will be a fine one for honey.

W. A. PELLEW.

Nevada Co., Calif., Feb. 2.

Only Half a Crop Last Year.

I take seven papers, and I think the American Bee Journal is the best. The good season I predicted last spring was cut short by dry weather in June. I only got 50 pounds to the colony, which is half a crop with us. There was no fall flow, either.

NATHAN RICHARDSON.

Steele Co., Minn., Feb. 3.

A Profitable Pleasure.

I began bee-keeping for pleasure by purchasing three colonies of hybrid bees June 3, 1893. Since that time I have secured 11,240 pounds of surplus honey, and increased to 125 colonies, which I have now in winter quarters, all in good condition. My bees have not had a flight since Oct. 27, and it will be 70 days yet before they can go out. It seems strange to us up here when we hear bee-keepers down South talking about their bees not having a flight for six weeks!

WILL J. SARFF.

Todd Co., Minn., Feb. 4.

Reports A Good Honey-Crop.

My honey crop was a good one the past season. I was so lame last spring that I thought best to sell part of my bees, and disposed of all but 80 colonies, and from that number I got 6,000 pounds of comb honey, all in one-pound sections, and it is all sold long ago, and I have my pay. It sold for 13 cents per pound, all but 200 pounds of very light-weight sections that were shelly or not capt and properly filled. One man has sold my honey for more than 25 years in Boston.

IRA BARBER.

St. Lawrence Co., N. Y., Jan. 30.

The Unions and Amalgamation.

I am sorry to see so much discordant feeling as has been worked up over the amalgamation question. Instead of uniting the apiarists of the United States, it seems at present to look like the opposite. When I joined the Union I did not expect to need its help, and never have. I joined to help a good cause. Likewise, I expect to become a member of the United States Bee-Keepers' Union, amalgamation or not, because we need that especial line of work lookt after, and I feel, with the able hands at the head, good work can and will be done, and not require any great amount of money, either. But work for a law against adulteration that will cover the United States,

then make use of it, by collecting evidence and letting the public prosecutors do the work. The Union should "stand to" and see that it is done, and a few cases will "settle their hash."

But I feel that I cannot leave this subject without censuring "Union" for his uncalled for insinuations in regard to Manager Newman's honesty. I would feel considerably "scarce" in trusting such things in his (Union's) hands, if I knew who he was, but as he was ashamed to back his article by signing his name, we know him not. And when he has proven himself by good works, as the General Manager has, we will have a better opinion of him.

DR. G. A. MILLARD.

Los Angeles Co. Calif., Jan. 23.

[Doctor, we think you are just a little wrong about thinking that "Union" made insinuations about the present Manager's honesty. We don't think that anybody ever questioned his honesty at all. But if you refer to the objection made to the ballots passing through the General Manager's hands, then we must agree with "Union." It certainly is not businesslike to have the ballots received by the principal officer of any organization, especially when that officer is a candidate. While it has been done so heretofore, that is no reason why such an unusual procedure should continue. Neither should the General Manager desire to have an election so conducted, in our opinion. A committee, specially selected for such duty, we think, is the only proper way to do it. We hope that hereafter, no matter who is General Manager of the Union, the ballots will not pass through his hands. It is better to avoid the very appearance of an opportunity for criticism in a matter of this kind.—EDITOR.]

Results of the Past Season.

My bees did fairly well the forepart of last summer. I started with 4 colonies last spring, increased to 11, 2 swarms absconding to the woods, leaving 9 for over winter. I am at present trying to winter one colony on the summer stand, that barely covers four frames, thinking perhaps I might learn a little by it. I winter all on the summer stands. We have had some cold weather since Jan. 1, it being down to zero and 4 degrees below, and still the bees seem to be all right so far.

EDWIN TRITTENBACH.

Northampton Co., Pa., Feb. 4.

White House Whitewash.

This was mentioned by C. W. Curry, on page 76. Brushes more or less small may be used according to the neatness of the job required. It answers as well as oil paint for wood, brick or stone, and is cheaper. It retains its brilliancy for years. There is nothing of the kind that will compare with it, either for inside or outside walls. Coloring matter may be put in, made of any shade you like. Spanish brown stirred in will make red-pink. Finely pulverized common clay well mixt with Spanish brown will make a reddish stone color, etc. Green will cause it to crack, and should not be used, as the lime injures the green.

Republic Co., Kans. WM. H. EAGERTY.

Report for 1896.

The bees in our section did fairly well last year. We had, for us, a large quantity of white honey from the basswood and clover, and it was very nice not to have very much of the buckwheat and other red honey from the fall flowers. We had a frost every month in the year at my place. I sold and doubled my bees down to 80 colonies in the spring. We had the first swarm May 25, the last one Aug. 28. I put 190 colonies, good and poor, into the bee-house last fall, and sold four in swarming time.

We are very much pleased with the Bee Journal, and always give it the preference.

ANDREW M. THOMPSON.

Allegany Co., N. Y., Jan. 21.

HONEY and BEESWAX

MARKET QUOTATIONS.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1 dark," etc.

Chicago, Ill., Feb. 8.—Fancy white, 12c.; No. 1, 10@11c.; fancy amber, 9@10c.; No. 1, 7@8c.; fancy dark, 7@8c.; No. 1, 7c. Extracted, white, 5@7c.; amber, 5@6c.; dark, 4@4½c. Beeswax, 25@27c.

Very little call for honey of any kind.

Albany, N. Y., Jan. 29.—Fancy white, 12-13c.; No. 1, 11-12c.; fancy dark, 7-8c.; No. 1, 6-7c.; Extracted, white, 5½-6c.; dark, 4-5c. The honey market is very quiet and stock moving very slowly, even at reduced prices. White clover is not plentiful. Extracted is moving very slowly, but we hope for an improved demand soon.

Indianapolis, Ind., Dec. 31.—Fancy white, 14-15c.; No. 1 white, 12-13c. Extracted, white, 6-7c. Beeswax, 22-25c. Demand is fair for grades quoted, but no demand for inferior grades.

Boston, Mass., Dec. 31.—Fancy white, 13-14c.; No. 1, 11-12c. Extracted, white, 6-7c.; amber, 5-6c. Beeswax, 25c.

Cleveland, Ohio, Dec. 31.—Fancy white, 14½@15c.; No. 1 white, 12½@13c. Extracted, white, 6@7c.; amber, 4½@5½c. Beeswax, 22@25c.

There is not very much honey in our market. Selling rather slow. Demand beginning to be a little better. Think trade will be fair in this line this fall.

New York, N. Y., Dec. 31.—Fancy white, 11@12c.; fair white, 9@10c.; buckwheat, 7@8c. Extracted, white clover and basswood, 5@5½c.; California, 6c.; Southern, 50c. per gallon. Beeswax in fair demand at 26@27c. The market is quiet and inactive. Demand light and plenty of stock on the market.

Cincinnati, Ohio, Feb. 8.—No. 1 white, 12@13c.; No. 1 amber, 11@12c.; No. 1 dark, 10@11c. Extracted, white, 5@6c.; dark to amber, 3½@5c. Demand for all kinds of honey is exceedingly slow.

Beeswax is in fair demand at 22@25c. for good to choice yellow.

Kansas City, Mo., Feb. 8.—No. 1 white, 12@13c.; fancy amber, 11-12c.; No. 1 amber, 10-11c.; fancy dark, 10c.; No. 1 dark, 8c. Extracted, white, 5½-6c.; amber, 5-5½c.; dark, 4-4½c. Beeswax, 25c.

San Francisco, Calif., Jan. 27.—White comb, 9-10c.; amber, 6-7c. Extracted, white, 5-5½c.; light amber, 4-4½c.; amber colored and candied, 3½c.; dark tulle, 2½c. Beeswax, fair to choice, 23-25c.

Philadelphia, Pa., Feb. 2.—Fancy white comb, 12-13c.; fancy amber, 8-9c.; No. 1, 8c.; fancy dark, 7-8c. Extracted, white, 5-7c.; amber, 4-5c.; dark, 3½-4c. Beeswax, 25c.

Season is getting over for comb honey—very little demand. Extracted in good demand.

St. Louis, Mo., Dec. 30.—Fancy white, 14c.; No. 1 white, 12@13c.; fancy amber, 11@12c.; No. 1 amber, 10@10½c.; fancy dark, 9@9½c.; No. 1 dark, 7@8c. Extracted, white, in cans, 6@7c.; in barrels, 5@5½c.; amber, 4½@4¾c.; dark, 3½@4c. Beeswax, 26½@27c.

Baker stock of extracted honey, 4@5c.; stock very scarce. Fair receipts of comb. Beeswax in good demand.

Detroit, Mich., Jan. 9.—Fancy white, 13-14c.; No. 1, 12-13c.; fancy amber, 11-12c.; No. 1 amber, 10-11c.; fancy dark, 9-10c.; No. 1, 8-9c. Extracted, white, 5½-6c.; amber, 5c.; dark, 4-4½c. Beeswax, 25-26c.

Minneapolis, Minn., Dec. 31.—Fancy white, 11@12c.; No. 1 white, 10@11c.; fancy amber, 9@10c.; No. 1 amber, 8@9c.; fancy dark, 7@8c.; No. 1 dark, 6-7c. Extracted, white, 6@7c.; amber, 5@5½c.; dark, 4@5c. Utah white extracted, 5@5½c. Beeswax, 23@26c. Market fairly steady for comb and better for extracted than for some time.

Buffalo, N. Y., Feb. 5.—Strictly fancy comb, 1-pound, moving quite well at 9 and 10 cents, while we hear of some grades a little less. No. 2 and other grades range from 7 to 5 cts. Quite liberal amounts can be sold if forced. Extracted, 3-5c. Better write before shipping.

List of Honey and Beeswax Dealers.

Most of whom Quote in this Journal.

Chicago, Ill.

R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

HILDRETH BROS. & SEGELKEN,

Kansas City, Mo.

C. C. CLEMOMS & Co., 423 Walnut St.

Buffalo, N. Y.

BATTERSON & Co., 187 & 189 Scott St.

Hamilton, Ill.

CHAS. DADANT & SON.

Philadelphia, Pa.

WM. A. SELSER, 10 Vine St.

Cleveland, Ohio.

WILLIAMS BROS., 80 & 82 Broadway.

St. Louis, Mo.

WESTCOTT COM. CO., 213 Market St.

Minneapolis, Minn.

S. H. HALL & Co.

Milwaukee, Wis.

A. V. BISHOP & Co.

Boston, Mass.

E. E. BLAKE & Co., 57 Chatham Street.

Detroit, Mich.

M. H. HUNT, Bell Branch, Wayne Co., Mich.

Indianapolis, Ind.

WALTER S. POWDER, 162 Massachusetts Ave.

Albany, N. Y.

CHAS. McCULLOCH & Co., 380 Broadway.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Convention Notices.

ILLINOIS—The annual meeting of the Illinois State Bee-Keepers' Association will be held at the State House, in Springfield, Feb. 24 and 25, 1897. The State Farmers' Institute meets the same week—including all the State live stock associations—and our Executive Committee, along with them, arranged for this date, in order that the Legislature might be in good working condition. (We all know what for.) There will be an effort made this winter to get a Pure Food Bill past, and that means bee-keepers want a hand in it, to see that the adulteration of honey shall cease FOREVER AND EVER. Two years ago we succeeded in getting an Anti-Adulteration Bill through the Senate, but it failed in the House, only for want of push. Let bee-keepers throughout the State impress upon their Representatives the importance of such a bill, and come to our meeting to refresh their minds on the subject.

Railroad rates will be no greater than a fare and a third, which will be announced later. Our programs will be issued along with the other State Associations named above. JAS. A. STONE, Sec.

Bradfordton, Ill.

WANTED—ATTENTION!

SEE HERE, Friend Bee-Keeper, the best goods are none too good, and the lowest prices are none too low for the present times, so down go the prices for 1897 on Full Line of Bee-Keepers' Supplies.

I defy competition in quality and workmanship. Working Wax into Foundation when sent to me, a specialty. Write, without fail, for Catalog. My prices are worth looking at. Wax wanted at 26c cash, or 28c in trade, delivered. August Weiss, Hortonville, Wis.

6A8t Mention the American Bee Journal.

The Rockford Seed Farms, owned by Mr. H. W. Buckbee, the great seedsmen of Rockford, Ill., are among the very best in this whole country. His catalog is a beauty. Send for it at once, not forgetting to say you are a subscriber to the American Bee Journal. We mention here a few of the leading features of the Buckbee Seed Catalog:

Buckbee's Great Bonanza Artichokes—the great hog food. Buckbee's New Golden Lima Bean—the best bean of the age. Sunset Beet the leading variety. Mastodon Mangrel—the latest creation in this great stock food family. Buckbee's Extra Early New Queen, Race Horse, Great Dand, and Christmas King Cabbages—a quartet of cabbages without superiors. Buckbee's Majestic and Victoria Carrots—the leading stock feeding varieties. Chief Cauliflower—the best up-to-date variety. Rockford Pickle Cucumber—a beauty in every sense of the word. First of all, best of all and Private Stock Evergreen Sweet Corns—the big three leaders. Superb Varieties of Lettuce. Phenomenal Varieties of Muskmelon. Buckbee's Monte Christo Watermelon—a world beater. Buckbee's Golden Globe Danvers Onion—more largely planted by Onion Specialists than any other variety. New Sandwich Island Pumpkin. Lightning Express Peas—the earliest on record. Rockford Market Radish—the favorite among gardeners and planters. Buckbee's New Self-Supporting Tomatoes. Pedigree Field Corn. Magnificent Oats. Thoroughbred Potatoes. Seed Drills. Cultivators, etc. A gorgeous array of Flower Seed, including the latest fashions in Sweet Peas, Asters, Balsams, Pansies, Nasturtiums, Verbenas, Phlox, Poppies, Japanese Morning Glories, etc. A magnificent assortment of Prize Winning Chrysanthemums, Carnations, Roses, Geraniums, Fuchsias, Coliens, Violets, etc.

The "Successful" Incubator seems to be well named. It is manufactured by the Des Moines Incubator Co., of Des Moines, Iowa, and was exhibited at the big Poultry Show held at Chicago during the blizzard week of January 25 to 30. The conditions under which a good hatch was secured is something remarkable, and is evidence that the Des Moines concern knows how to build an incubator that will hatch eggs almost anywhere. 400 eggs were purchased at a commission house, incubated for 18 days at Des Moines, Iowa, then hauled one mile by express wagon to the depot, where the incubator and the eggs were loaded into the express car and started on their 375-mile journey, to be hatched out two days later. This transfer was made during the coldest wave of the season. On arrival at the "Windy City," another haul was made by express wagon to the Exhibition Hall, where overcoats and gloves were necessary articles. Still they hatch until the machine was literally filled with chickens, and was highly deserving of the great attraction it created. An incubator furnished with a regulator that will govern the heat on board of an express train, and hatch eggs accompanied by a 20 degrees below temperature is certainly up-to-date. Write them for a catalog telling all about their "Successful" chicken hatcher. Of course, you'll not forget to say you read the American Bee Journal.

Bee-Keepers' Photograph.—We have now on hand a limited number of excellent photographs of prominent bee-keepers—a number of pictures on one card. The likeness of 49 of them are shown on one of the photographs, and 121 on the other. We will send them, postpaid, for 30 cts. a card, mailing from the 121 kind first; then after they are all gone, we will send the 49 kind. So those who order first will get the most "faces" for their money. Send orders to the Bee Journal office.

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B. D. COOK, Wilton, N. H.

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Mrs. L. C. AXTELL,

7A1f ROSEVILLE, Warren Co., ILL.

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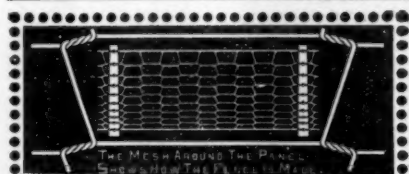
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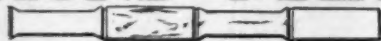
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